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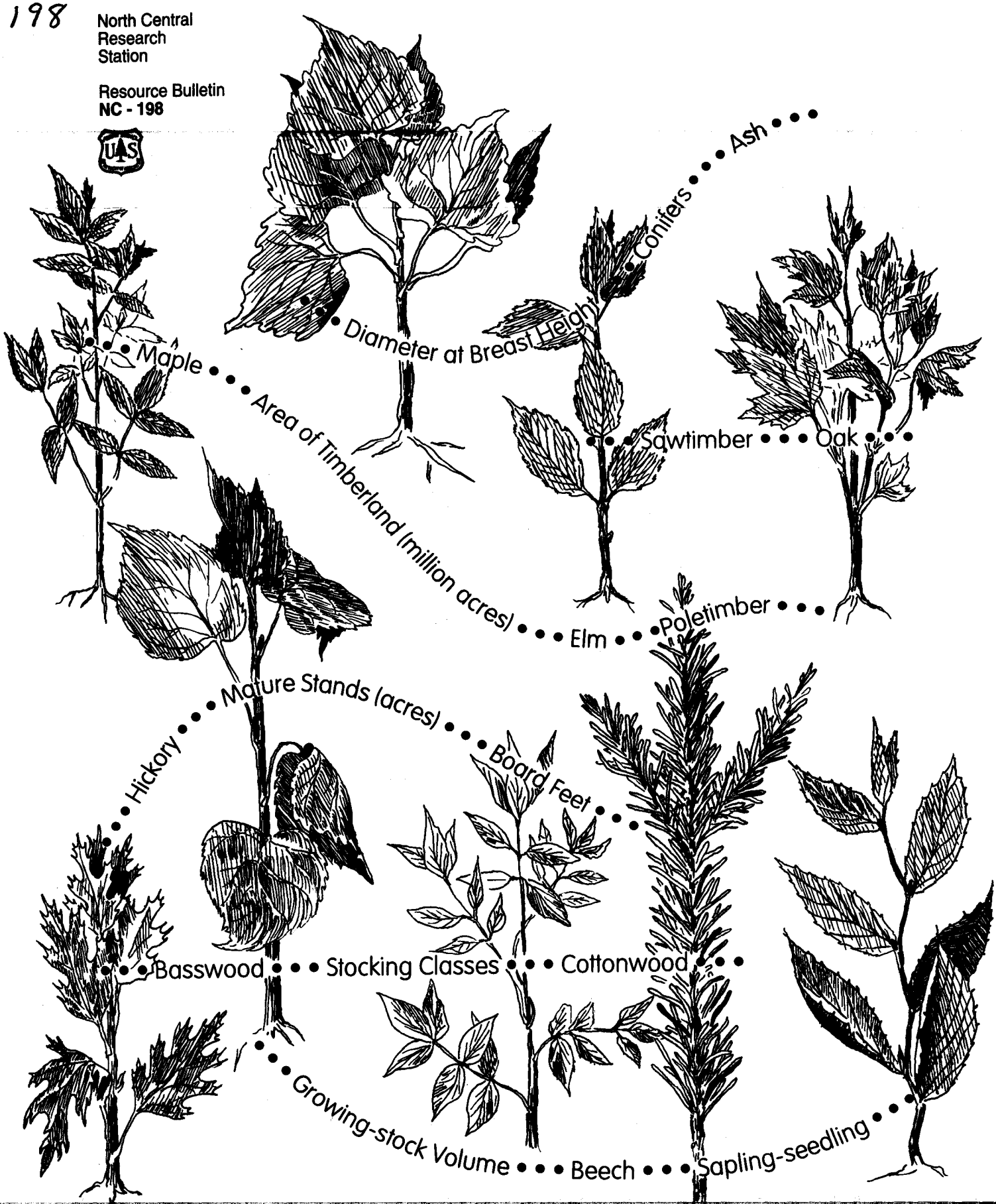
Illinois' Forests in 1998

Thomas L. Schmidt, Mark H. Hansen, and James A. Solomakos



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This report includes the most commonly used U.S. Department of Agriculture, Forest Service, Forest Inventory and Analysis (FIA) statistics. Additional forest resource data can be obtained through FIA staff, an FIA CD-ROM disc, or a table generator on the North Central Research Station's Internet page. Persons requesting additional information from FIA staff are expected to pay the retrieval costs. Requests may be directed to:

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FOREWORD

FIA is a continuing endeavor as mandated by the Renewable Resources Research Act of 1978, the Forest Ecosystems and Atmospheric Pollution Act of 1988, and Section 253(c) of the Agricultural Research, Extension, and Education Reform Act of 1998. The objective of FIA is to inventory the Nation's forest land. Up-to-date resource information is essential to frame forest policies and programs. USDA Forest Service regional research stations are responsible for conducting these inventories. Fieldwork for the fourth forest inventory of Illinois was begun in August of 1996 and completed in August of 1998. Reports of previous inventories of Illinois are dated 1948, 1962, and 1985. The State of Illinois provided valuable cooperation and assistance throughout the course of this most recent inventory effort.

Notice to users of the 1998 inventory of Illinois's forest resources results:

Tables in the appendix relating to sawtimber volume are presented in both International 1/4 inch rule and Doyle rule. International 1/4 inch rule is the USDA Forest Service standard while Doyle is the common measure used in Illinois by forest industries and land management agencies. Because these results are used nationally and consistent comparisons are crucial, International 1/4 inch rule is used as the unit of measure for sawtimber volume unless Doyle rule is noted in the text. We have made an effort to include Doyle tables and discussion where appropriate to improve the utility of the inventory results for regional and local users of these results.

Data from new inventories are often compared with data from earlier inventories to determine trends in forest resources. However, for the comparisons to be valid, the procedures used in the two inventories must be similar. As a result of our ongoing efforts to improve the efficiency and reliability of the inventory, several changes in procedures and definitions have occurred since the last Illinois inventory in 1985. Because some of these changes will make it inappropriate to directly compare the 1998 data with those published for 1985, data from the 1985 inventory have been reprocessed using the 1998 procedures. Please refer to the section labeled "Comparing the fourth inventory of Illinois with the third inventory" in the appendix for more details.

Perhaps the most significant change between inventories was the development of new volume tables between the 1985 and 1998 inventories of Illinois' forest resources. The new volume tables, developed by USDA Forest Service research scientists and other cooperating researchers, more accurately estimate the true growing-stock and sawtimber volume. In general, the old volume tables used in the previous inventories slightly overestimated the true volume. As a part of the current inventory, we updated the 1985 inventory using the new volume tables. As a result, the volumes that were recalculated for the 1985 inventory show a small decrease from the previously published volumes (Resource Bulletins NC-103 – Illinois Forest Statistics, 1985, and NC-105 – Illinois' Forest Resource). All tables with 1985 data, and comparisons to the 1985 inventory results, in this publication reflect the recalculated volumes.

Field work for this most recent inventory was completed between 1996 and 1998. All data related to area and volume are dated 1998. Because field measurements were ongoing during 1998 and change data such as growth, mortality, and removals continued to occur in 1998, these data are dated

1997. Comparisons between the most recent inventory and updated previous inventories for area and volume compare 1985 with 1998. Comparisons for growth, mortality, and removals compare 1985 with 1997.

FIA St. Paul, Minnesota, staff involved in the fourth inventory of Illinois included Beth Collins, Dave Frazier, Barb Fuller, Dale Gormanson, Ron Hackett, David Haugen, Barb Knight, Leo Larkin, Earl Leatherberry, Dennis May, Pat Miles, Tim Miller, Jerry Ostrom, Ron Piva, Gerhard Raile, Mary Jo Resendez, Tyson Schreiner, and Dan Wendt. FIA field staff involved in this inventory were Ryan Anderson, Joseph Boykin, Steve Fadden, Tom Forbes, Cheri Hartless, Patrick Hartless, Glenda Hefty, Bryan Hendricks, Gary Inhelder, Brian Peura, Brad Witkin, and Erin Witkin.

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Illinois' Forests in 1998

Thomas L. Schmidt, Mark H. Hansen, and James A. Solomakos

Illinois has a variety of forest resources that make significant environmental and economic contributions. In addition to employment and other economic contributions, Illinois' forests provide outdoor recreation experiences as well as improve and protect the State's soil and water resources. The State is divided into three Survey Units, based largely on topography and location of forest land (fig. 1).

HIGHLIGHTS

- The area of Illinois' forests continued to show a net increase between inventories, a trend that began in the 1960's. The primary causes were increases in the width of existing narrow wooded strips and the conversion of cropland and pasture to forest land. These increases were greater than losses by development of forest land for agriculture, urban/suburban expansion, and other uses.

- Net growth exceeded harvest in Illinois. Average annual net growth of growing stock exceeded the average annual harvest by a 2.6 to 1 margin between 1985 and 1997. As a result of the expanding resource and the greater growth than harvesting, the volume of trees growing in Illinois continued to increase.

- During the 13 years between inventories, an average of 21.8 million new growing-stock trees were established each year in Illinois. As a result, in 1998 there were 283.7 million more growing-stock trees than in 1985.

- The future of the forest lies in the hands of individual private landowners. They own almost 90 percent of the total area of timberland in Illinois.

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EXTENT OF ILLINOIS' FORESTS

- Area of forest land and timberland has increased since the 1960's (timberland is a subset of forest land; timberland has minimum productivity capabilities and is not permanently excluded from harvest by legislation or administrative order). Due to the dominance of timberland, the majority of this report presents results related to timberland. Timberland has historically represented more than 90 percent of the total area of forest land in Illinois. For example, of the 4.3 million acres of forest land in 1998, 94 percent was classified as timberland.

- The area of timberland in Illinois has been steadily increasing since the 1960's. Timberland increased from 3.981 million acres in 1962, to 4.030 million acres in 1985, to 4.087 million acres in 1998 (fig. 2). In 1998, timberland represented 11 percent of the total land area in Illinois.

- The majority of the increase in area of timberland between 1985 and 1998 occurred in the Southern Unit. The Claypan Unit slightly increased while the Prairie Unit slightly decreased in area of timberland.

- Pope County, in the Southern Unit, was the most heavily forested county in both 1985 (143 thousand acres of timberland) and in 1998 (151 thousand acres of timberland).

- In 1998, the Southern Unit was the most heavily forested Survey Unit with almost 3 out of every 10 acres classified as timberland. Conversely, in the Prairie Unit, less than 1 out of every 10 acres was classified as timberland. The Prairie Unit was the most urbanized and agriculturally oriented part of the State. In the Claypan Uinit, 15 percent of the total area of land was classified as timberland.

- Individual private landowners were the largest timberland ownership group in Illinois, owning 82 percent of all timberland in 1998. The Federal government was the

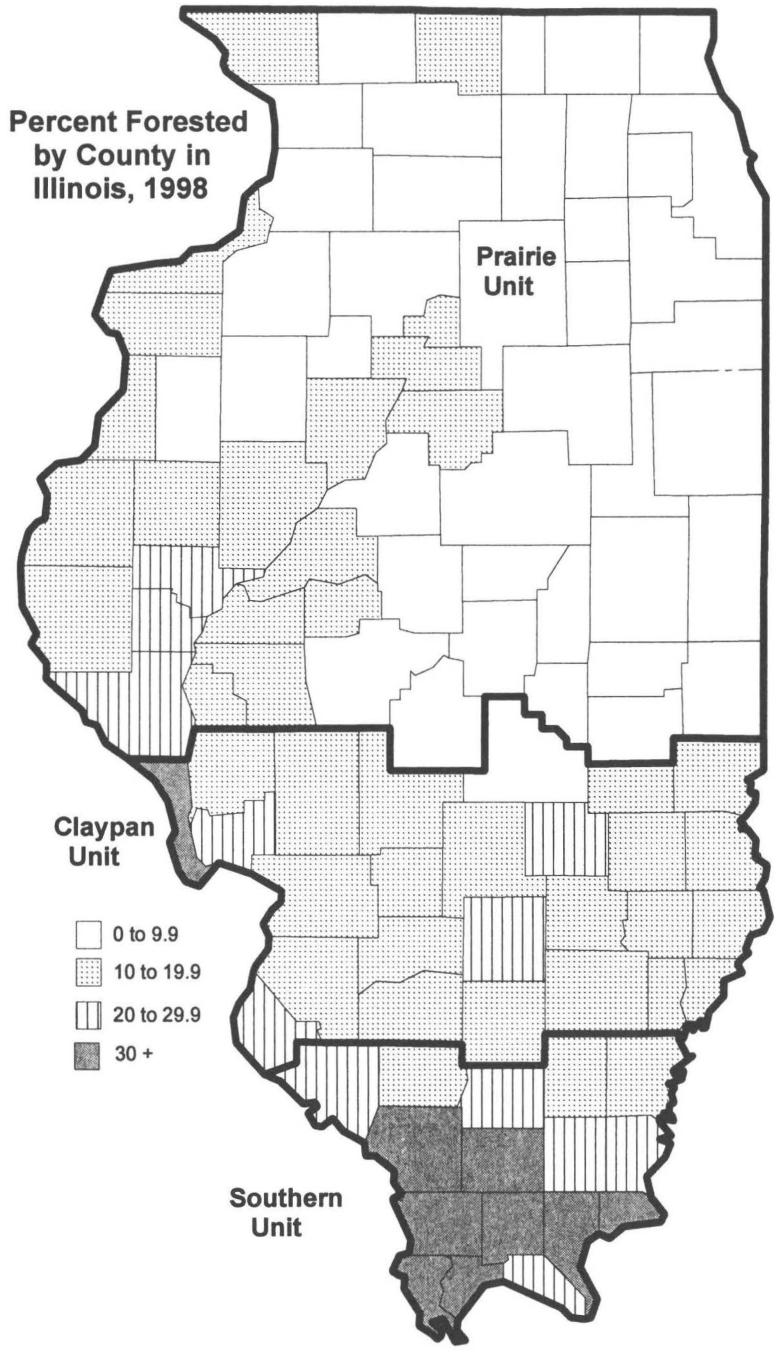

Figure 1.—*Forest land as a percent of land area by county, and Survey Unit, Illinois, 1998.*

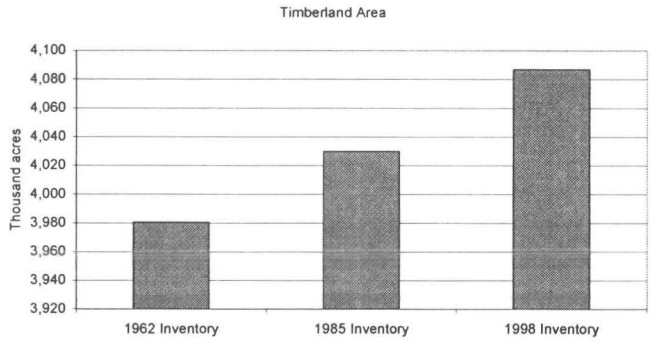

Figure 2.—*Area of timberland in Illinois by inventory time period.*

largest public owner of timberland with 313 thousand acres, representing 8 percent of the total timberland area.

COMPOSITION OF ILLINOIS' FORESTS

Area

- Illinois' forests were predominately hardwoods with 97 percent of the total area of timberland classified as hardwood forest types. The primary hardwood forest types in Illinois were oak/hickory with 2.1 million acres, elm/ash/cottonwood with 906 thousand acres, and maple/beech with 696 thousand acres (fig. 3).

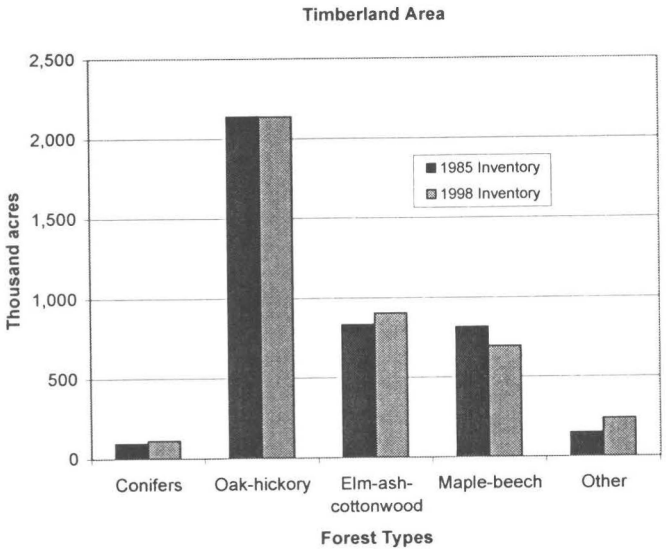

Figure 3.—*Area of timberland in Illinois by selected forest types, 1985 and 1998.*

- In 1998, conifer forest types represented only 3 percent of the total area of timberland in Illinois. In 1998, there were 47 thousand acres where eastern redcedar was the predominant species and 63 thousand acres where pines were the predominant species.

- Between 1985 and 1998, the area of shortleaf pine, oak/pine, and maple/beech declined. The area of oak/hickory remained stable while the area of white pine, eastern redcedar, oak/gum/cypress, elm/ash/cottonwood, and cherry/ash/yellow-poplar all increased between 1985 and 1998.

- Increases in the area of eastern redcedar occurred as nonforest land with trees in 1985 increased its stocking level by 1998 through increases in total number of trees and in the diameter size of existing trees, which resulted in these stands now being classified as timberland. In previous inventories, elm/ash/cottonwood bottomland forests existed as narrow wooded strips but did not meet the minimum requirement for timberland (at least 120 feet in width). Over time, these narrow forests expanded in width to where, by 1998, they qualified as timberland, which contributed to the overall statewide increase in timberland. Increases in the area of cherry/ash/yellow-poplar occurred as selective harvesting and natural mortality caused timberland stands that were classified as either oak/hickory or maple/beech in 1985 to be reclassified as cherry/ash/yellow-poplar in 1998.

- Between inventories, the area of poletimber-size and sawtimber-size stands increased as Illinois' forests continued to mature and increase their average diameters (fig. 4). Diameters are measured at 4.5 feet above ground and are referred to as diameter at breast height (d.b.h.). As the area in larger stands increased, the area in sapling-seedling-size stands decreased. This change occurred as sapling-seedling-size trees measured in 1985 increased their diameters through growth to where, by 1998, they qualified as either poletimber or sawtimber-size trees. In 1985, sawtimber-size stands accounted for 64 percent of the total area of timberland. However, by 1998, sawtimber-size stands represented 72 percent of the total area of timberland.

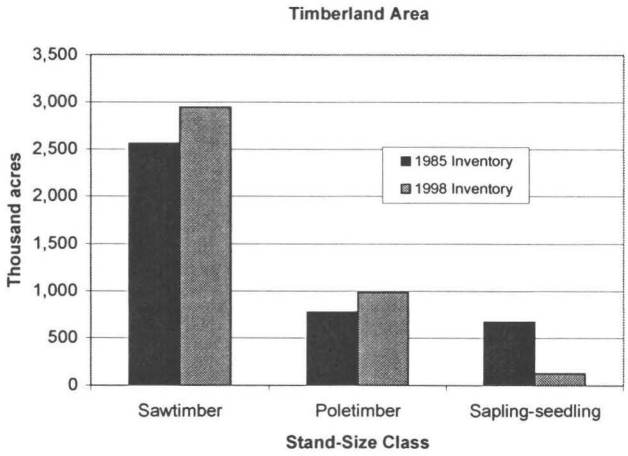

Figure 4.—*Area of timberland in Illinois by stand-size class, 1985 and 1998.*

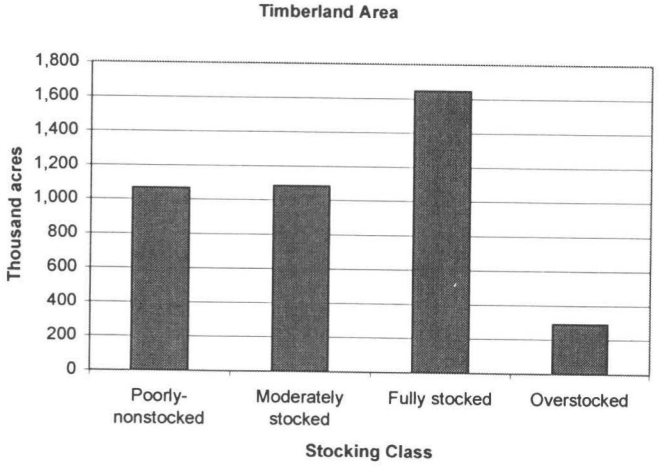

Figure 5.—*Area of timberland in Illinois by stocking class, 1998.*

- The increase in the average stand-size class in Illinois between inventories is an indication of a lack of significant disturbance through either natural occurrences or harvesting. Selective harvesting methods used in hardwood stands throughout the Central Hardwood Region do not cause the large-scale disturbances that are needed to reclassify the timberland as sapling-seedling-size stands. Sixty-five percent of the new forest land (areas classified nonforest in 1985 and forest in 1998) was classified sawtimber in the 1998 inventory. This occurred through the expansion of narrow wooded strips and other small wooded areas that had trees but were not classified forest in 1985 because they were too narrow (less than 120 feet wide) or too small in area (less than 1 acre in size) and by the expansion of existing forest land into other nonforest areas.

- In 1998, 40 percent of the timberland in Illinois was considered fully stocked (fig. 5). Stocking is a measure of how well-occupied the land is by trees. The goal of most forest managers is to maintain the forests in a fully stocked condition since this condition provides for optimal growth. There are opportunities to improve the current growth rate and the overall health and vigor of Illinois' timberlands.

- The average potential productivity of timberlands in Illinois is above the national average. Potential productivity is an estimate of the volume growth per acre per year at culmination of mean annual increment of a fully stocked stand. Although this definition is intended for industrial wood production, it is a good measure of the potential of a forest to produce a wide array of products and benefits. In Illinois, half of the total area of timberland has the potential to produce more than 85 cubic feet of wood per acre per year (fig. 6). As a comparison, 29 percent of Michigan's timberlands have a potential productivity of more than 85 cubic feet per acre per year (Schmidt *et al.* 1997).

Number of Trees

- In terms of the total number of growing-stock trees, elm with more than 412 million trees was the most abundant species group

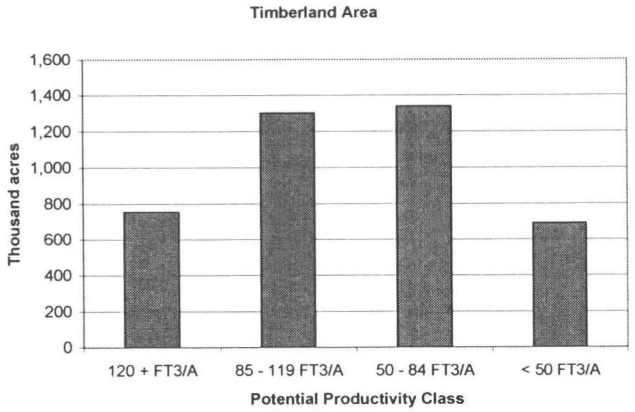

Figure 6.—*Area of timberland in Illinois by potential productivity class, 1998.*

in Illinois in 1998. Other species groups with more than 100 million trees included hickory, red oak, sugar and black maples, ash, hackberry, and black cherry. Eastern redcedar, with almost 20 million growing-stock trees in 1998, was the most abundant conifer.

- The number of growing-stock trees in Illinois increased from 1.6 billion in 1985 to 1.9 billion in 1998. Illinois had an estimated population of 12 million people in 1998, so there were almost 160 growing-stock trees for each citizen in the State.

- Between 1985 and 1998, elm, sycamore, willow, hackberry, black cherry, black walnut, and yellow-poplar all increased in the total number of growing-stock trees by at least 25 percent.

- Due to the high economic and wildlife benefits associated with oaks, they are of special concern in Illinois. Between 1985 and 1998, the total number of trees in the red oak species group increased by 30 percent and the total number of trees in the white oak species group decreased by 12 percent.

- In addition to white oak, basswood, beech, soft maple, cottonwood, river birch, and butternut all decreased in the total number of growing-stock trees between 1985 and 1998.

Growing-stock Volume

- Growing-stock volume increased from 4.7 billion cubic feet in 1985 to 5.9 billion cubic feet in 1998, reflecting the increase in both area and stocking during the 13 years between inventories. This increase continued the trend in Illinois of increasing growing-stock volume with each new inventory (fig. 7).

- With the increase in total growing-stock volume, average timberland volume per acre also increased. Average volume per acre increased from 865 cubic feet per acre in 1962 to 1,454 cubic feet per acre in 1998. The increasing level of growing-stock volume per acre in Illinois reflects increasing stocking rates and high "growth to removals" ratios. If stocking could be increased, average volumes would be expected to continue to rise, allowing for increased harvesting and other uses without threatening the resource.

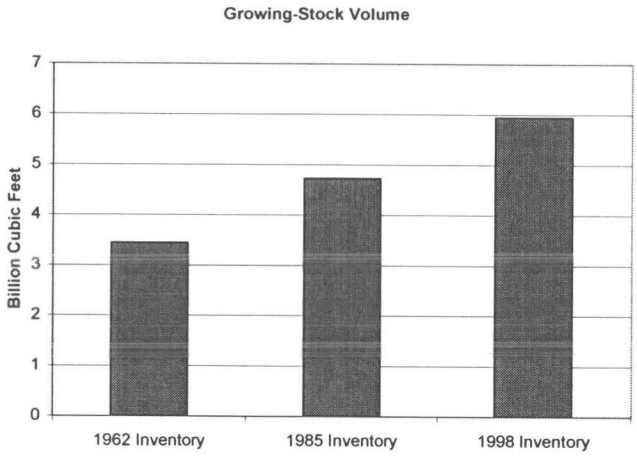

Figure 7.—*Total growing-stock volume in Illinois by inventory time period.*

- Growing-stock volume increased between inventories in all three units (fig. 8). While the Prairie Unit had the most total growing-stock volume, it had the lowest average growing-stock volume per acre with 1,374 cubic feet per acre. The Southern Unit averaged 1,528 cubic feet per acre and the Claypan Unit averaged 1,487 cubic feet per acre. On average, the higher the average volume per acre the higher the stocking rate.

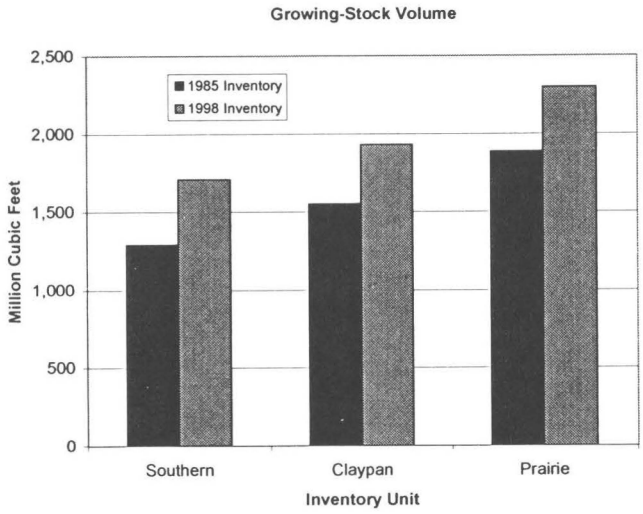

Figure 8.—*Growing-stock volume in Illinois by unit, 1985 and 1998.*

- Sawtimber volume also increased in Illinois between 1985 and 1998, rising from 16.2 billion board feet in 1985 to 21.9 billion board feet in 1998 (International 1/4 inch rule). The increase in growing-stock and sawtimber volume shows the dominance of Illinois' timberland by larger stands and trees. As these forests mature, it could be expected that future regeneration might favor shade-tolerant species. As a result, future regeneration of shade-intolerant species might be expected to decline.

- In both 1985 and 1998, hardwoods accounted for 97 percent of all growing-stock volume. The species groups with the most growing-stock volume in 1998 were red oaks, white oaks, soft maple, hickories, ash, cottonwood, and hard maple (all with more than 200 million cubic feet) (fig. 9).

- In 1998, 87 percent of the total volume of timber in Illinois qualified as growing stock. In addition to growing-stock volume (5.9 billion cubic feet), Illinois had additional non-growing-stock volume in cull trees of 757 million cubic feet (short-log, rough, and rotten trees) and in salvable dead trees of 106 million cubic feet in 1998. In total, Illinois had 6.8 billion cubic feet of volume in 1998. While the vast majority of wood harvested is from growing stock, these other sources of volume also contribute to the overall harvest and availability of wood fiber in Illinois.

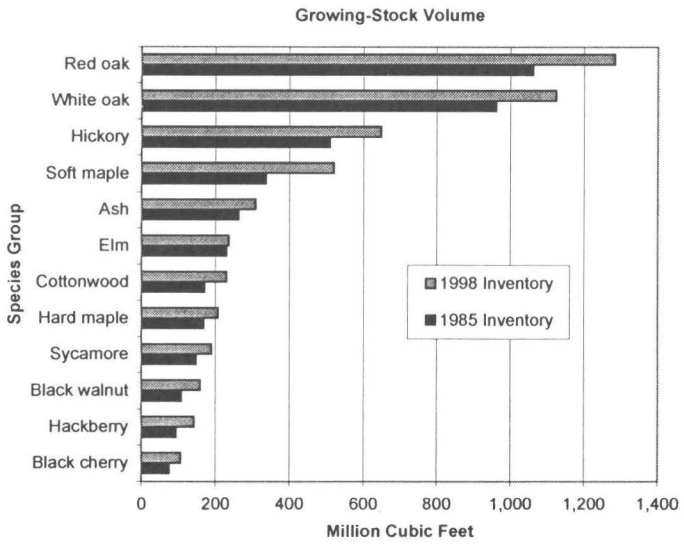

Figure 9.—*Growing-stock volume in Illinois by selected species groups, 1985 and 1998.*

Sawtimber Volume

- In 1998, sawtimber volume in Illinois totaled 21.9 billion board feet measured with the International 1/4 inch rule. Due to State and local interest, the following sawtimber volume discussions are presented using Doyle rule. To convert from Doyle rule to International 1/4 inch rule, please see the appendix for conversion factors. In the appendix tables, sawtimber volume is presented in both Doyle and International 1/4 inch rule.

- Overall, the sawtimber volume measured using Doyle is about 65 percent of the same sawtimber volume measured using the International 1/4 inch rule. The trends expressed in our discussion of sawtimber volume using the Doyle rule hold true for International 1/4 inch rule as well.

- In 1998, Illinois had 14.8 billion board feet (Doyle) of sawtimber volume. Of the total sawtimber volume, 41 percent was in trees with diameters of more than 21 inches.

- The species groups with the most sawtimber volume include red and white oak, soft maples, hickory, cottonwood, sycamore, and ash. All of these species groups had more than 600 million board feet (Doyle) of sawtimber volume.

- Between 1985 and 1998, all species groups increased their sawtimber volume except tupelo. The greatest percentage increase in sawtimber occurred in the conifers, soft maple, sweetgum, black walnut, hackberry, black cherry, and willow species groups. All these species groups increased their total sawtimber volume by at least 50 percent between inventories (fig. 10).

- Both the Claypan and Prairie Units rose by almost 1.4 billion board feet (Doyle) in the 13 years between inventories for an average annual increase of about 100 million board feet (Doyle) in each unit.

Quality of Sawtimber

- The quality of Illinois' sawtimber has improved since 1985. As an example, the percentage of sawtimber in the highest quality classifications (grades 1 and 2)

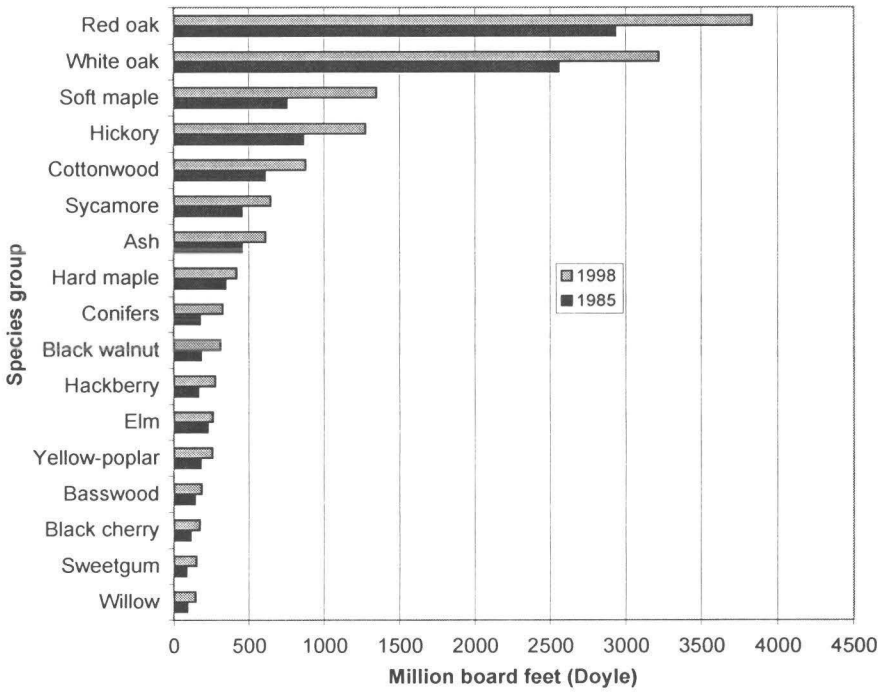

Figure 10.—*Sawtimber volume in Illinois by species group between 1985 and 1998 (Doyle).*

increased from 28 percent in 1985 to 48 percent in 1998 (fig. 11). The predominant reason for this improvement in quality was the increase in the overall size (diameters and lengths) of the sawtimber resource.

CAUSES OF CHANGE IN ILLINOIS' FORESTS

- The primary causes of change in Illinois' forests are natural successional processes, growth, mortality, and other natural disturbances; and human-induced changes such as harvesting and land-use change. These change factors often result in reclassifications from one forest type to another. For example, some timberland sites were classified as oak/hickory forest type in 1985. However, when our field crews re-visited these same sites in 1998, either succession had progressed to where the oak/hickory trees were replaced by other species or harvesting had occurred that changed the species composition. If oak trees are harvested and if the advanced regeneration consists of other species, the stand often converts to a different species composition, which can result in its being classified as a different forest type. For example, in 1985, there were 2,139 thousand acres classified as oak/hickory forest. In 1998, there were 2,137 thousand acres classified as oak/hickory forest. However, not all of the 1985 oak/hickory forests stayed as this same type during the 13 years between inventories. Of the oak/hickory acreage in 1985, 1,735 thousand acres stayed in the oak/hickory forest type, 149 thousand acres were reclassified as nonforest, 136 thousand acres were reclassified as maple/beech, and the other 119 thousand acres were reclassified into other forest types. Table A shows the FIA-determined changes in land-use classification between 1985 and 1998.

- Most of Illinois' forests were not planted and are more or less naturally occurring. Less than 3 percent of the total timberland area consists of plantations where planted trees form a portion of the stand. Shortleaf pine, eastern white pine, and red pine are the major species that have been planted over the years in Illinois. Most of the timberland area in pine and oak/pine forest types are plantations. Plantations made up 100

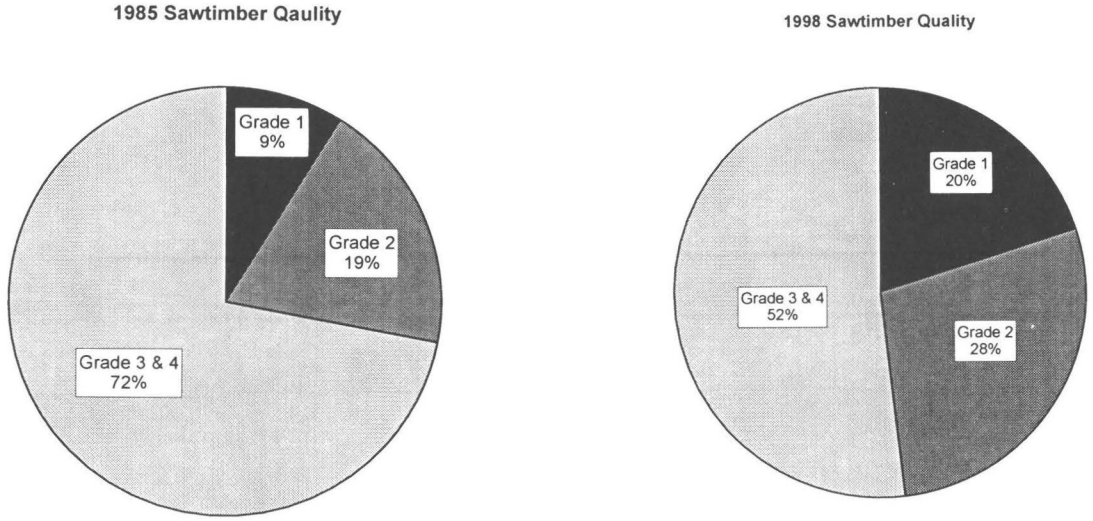

Figure 11.—*Percentage of sawtimber volume in Illinois by grade in 1985 and 1998.*

percent of the white pine type, 90 percent of the shortleaf/Virginia pine type, and 60 percent of the oak/pine type area. These three forest types made up more than 75 percent of the total plantation area found in the State. In hardwood types, less than 1 percent of the timberland area was found to be in plantations. This may underestimate hardwood planting somewhat because in older hardwood forests it is often difficult to determine whether or not the stand was planted. Hardwood species that have been planted and were found in this inventory included tulip poplar, sweetgum, sycamore, black walnut, white oak, white ash, green ash, and hybrid poplar. Other species have been planted, but, either the sampling intensity of this inventory (approximately one plot per 3,200 acres of forest land) missed them or they were present on plots but not identified as planted trees.

- Illinois' forest composition has shifted over time. Timberlands that moved into nonforest land classifications represent a conversion of timberland into other land uses such as developed land (housing, road construction, and other human-induced land developments) and agriculture. In the 13 years between inventories, 441 thousand acres of timberland in Illinois were converted to nonforest land uses. During the same time period, 507 thousand acres of nonforest land converted to timberland.

- New timberland area in Illinois came primarily from nonforest lands that were reclassified into elm/ash/cottonwood, oak/hickory, and maple/beech forest.

- Between 1985 and 1998, thousands of acres of timberland were reclassified into other forest types in Illinois. These acres stayed as timberland but were reclassified because the species composition changed between inventories. Changes in species composition occur as the forest matures; natural disturbances such as windstorms and floods occur; and human-induced activities such as harvesting, timber stand improvement (TSI), and tree planting happen. These events change the composition of the forest and the resulting forest type classification.

- Timberlands undergo successional changes in species composition as natural regeneration replaces existing overstory trees. Overstory trees are lost through both natural mortality and harvesting. In Illinois, trees that replace the lost overstory arise primarily from natural regeneration. In addition, expansion of timberlands over time and increased stocking rates have occurred due to increased regeneration. Regeneration is generally considered to be in three classes of saplings/seedlings: seedlings less than 1 inch d.b.h., saplings from 1- to 2.9-inches d.b.h., and saplings

Table A.-- Land-use classification changes in Illinois, 1985-1998

1986 Land classification Forest type/land use	1985 total area [2]	1998 Land classification [1]														
		Timberland - forest type														
		White pine	Shortleaf/ Virginia pine	Eastern redcedar	Eastern redcedar/ hardwoods	Oak/ pine	Oak/ hickory	Oak/ gum/ cypress	Elm/ash/ cotton-wood	Maple/ beech	Cherry/ ash/yellow-poplar	Aspen/ birch	Non-stocked	Reserved forest land	Nonforest with trees	Nonforest without trees
	(Thousand acres)															
White pine	17.1	17.1	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Shortleaf/Virginia pine	33.6	--	21.9	--	--	--	--	--	--	--	--	--	--	--	--	11.0
Eastern redcedar/hardwood	20.2	--	--	--	2.8	--	7.2	--	--	2.4	--	--	--	--	4.4	3.4
Oak/pine	23.1	--	2.8	--	2.8	4.3	4.4	--	--	--	--	--	--	--	6.1	2.7
Oak/hickory	2,138.8	--	--	3.7	5.5	7.2	1,735.4	7.7	57.4	136.2	14.7	3.4	9.6	8.6	95.6	53.8
Oak/gum/cypress	83.1	--	--	--	--	--	--	52.5	14.4	--	--	--	--	--	6.8	9.4
Elm/ash/cottonwood	832.5	--	2.3	--	--	--	20.9	7.5	603.6	46.5	9.5	--	--	--	73.6	68.6
Maple/beech	815.9	--	--	--	12.3	--	210.6	9.5	58.1	402.2	24.6	--	--	--	67.9	30.7
Cherry/ash/yellow-poplar	44.5	--	--	--	--	--	15.2	--	--	21.2	8.1	--	--	--	--	--
Nonstocked	21.1	--	--	--	--	--	3.7	2.1	2.9	--	5.0	--	--	--	7.4	--
Reserved forest	235.6	--	--	--	--	--	--	--	--	--	--	--	--	235.6	--	--
Nonforest with trees	900.8	--	--	--	2.5	1.4	43.6	--	32.3	13.3	--	--	6.2	--	655.7	145.8
Nonforest without trees	30,463.7	19.0	--	--	--	4.0	96.1	13.9	137.2	74.4	45.3	--	18.2	--	108.7	29,896.7
Total	35,630.0	36.1	27.0	3.7	25.9	17.6	2,137.1	93.2	905.9	696.2	107.2	3.4	34.0	244.2	1,026.2	30,222.1

[1] Read across rows to determine dispersion of 1985 classes to 1998 classes. Read down columns to determine origin of 1998 classes.
[2] Total land area adjusted to conform to 1980 census figures.

To use Table A: for example, to find out what happened to the 2,139 thousand acres of oak/hickory in 1985 - simply read across the oak/hickory row and find that about 1,735 thousand acres stayed as oak/hickory, 136 thousand acres were reclassified as maple/beech, 96 thousand acres were reclassified as nonforest with trees, and so on.
To determine the source of the 2,137 thousand acres of oak/hickory in 1998, read down the oak/hickory column. Of these acres, 1,735 thousand acres were classified as oak/hickory in both inventories, 211 thousand acres were reclassified from maple/beech to oak/hickory, and so on.

from 3- to 4.9-inches d.b.h. Overall, Illinois' growing-stock regeneration, expressed in number of smaller trees, has consistently increased since the 1960's (fig. 12).

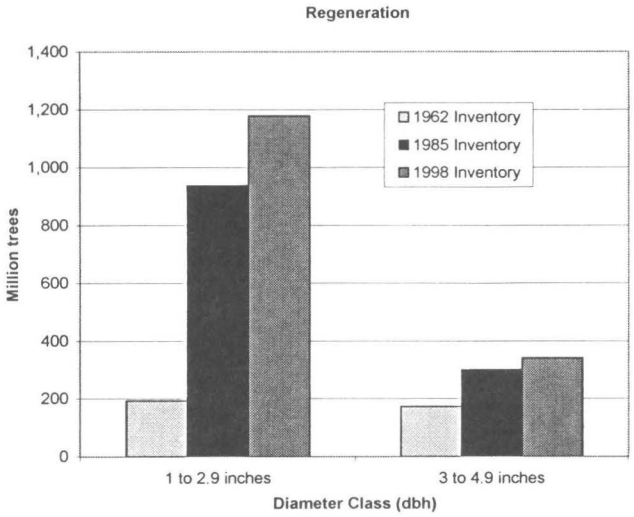

Figure 12.—*Total regeneration in Illinois by diameter class, by inventory period.*

- Grazing by domestic animal stock can have a major impact on a forest, significantly impacting regeneration, understory vegetation, species composition, water quality, tree growth, and tree mortality. In 1998, 11 percent of the total area of timberland in the State was also being used for pasture (461 thousand acres of pastured timberland out of the statewide total of 4,087 thousand acres of timberland). These pastured timberlands are productive forest lands that have at least the minimum stocking to be classified as forest land but where domestic livestock are actively being grazed. In addition to these pastured timberlands, there are 88 thousand acres of wooded pasture and 127 thousand acres of pasture with trees in the State. These two classes have some trees, but they do not have enough stocking to be classed as forest land. They are typically more heavily grazed or have been grazed for longer periods of time than pastured timberland; as a result, there is little or no advanced regeneration or other understory vegetation and the growth on the overstory trees is being affected. Between 1985 and 1998, grazing decreased on timberland from 14 percent of the area to 11 percent and the area of wooded pasture decreased from 162 thousand acres to 88 thousand acres. This indicates that less forest land is being used for grazing, but, much of the State's forests are still being impacted by grazing.

- Because of the maturing of Illinois' forests, and white and red oak's limited ability to regenerate under shade, the regeneration of these species is of concern. The total number of growing-stock white oak trees in both the 1- to 2.9- and 3- to 4.9-inch d.b.h. size classes declined between 1985 and 1998. As a comparison, the number of growing-stock white oaks in the 1- to 2.9-inch d.b.h. class in Indiana rose from 19.9 million trees in 1986 to more than 23.6 million in 1998.

- The total number of growing-stock red oak trees in both the 1- to 2.9- and 3- to 4.9-inch d.b.h. size classes increased between inventories (fig. 14). The number of red oaks 1- to 2.9-inches in d.b.h. increased by 73 percent and the number of red oaks 3- to 4.9-inches in d.b.h. increased by 13 percent from 1985 to 1998. As a comparison, the total number of growing-stock red oak trees in the 1- to 2.9-inch d.b.h. class in Indiana declined by 16 percent between the two most recent inventories. Thus, while the decline in small white oaks is of crucial importance, the recent increase in small red oaks helps to alleviate some of the concerns.

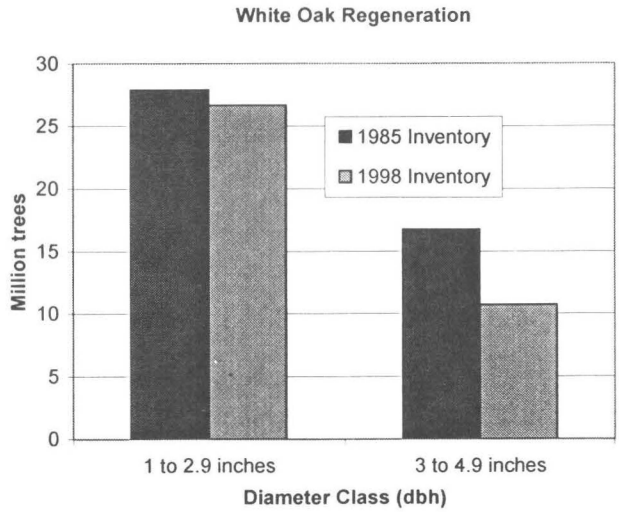

Figure 13.—*White oak regeneration in Illinois by diameter class, 1985 and 1998.*

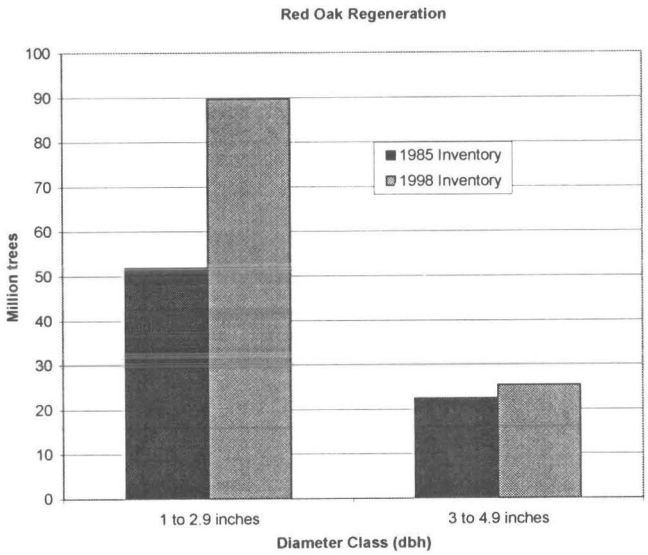

Figure 14.—*Red oak regeneration in Illinois by diameter class, 1985 and 1998.*

- Between 1985 and 1997, Illinois' average annual net growth of growing stock was 175 million cubic feet. This equates to an average annual net growth rate of 43 cubic feet of growing stock per acre for each of the 4.1 million acres of timberland in Illinois. Net growth rates are gross growth minus mortality.

- Hardwoods accounted for 97 percent of Illinois' total average annual net growth. Hardwood species with the largest average annual net growth of growing stock were red oak, white oak, hickory, soft maple, elm, and ash. All these species groups averaged at least 10 million cubic feet of growing-stock annual net growth between inventories.

- Illinois' average annual mortality of growing stock was 73 million cubic feet between 1985 and 1997. This equates to an average annual mortality rate of 18 cubic feet of growing stock per acre for each of the 4.1 million acres of timberland in Illinois. With an average annual mortality rate of 18 cubic feet per acre and a net growth rate of 43 cubic feet per acre, Illinois averaged a gross growth rate of 61 cubic feet per acre between inventories (gross growth equals net growth plus mortality). If mortality can be decreased through increased management, the additional growth could be available for harvest or other uses. However, mortality can also be positive because it provides coarse woody material for Illinois' riverine water systems and a variety of wildlife habitats.

- Between 1985 and 1997, the greatest total mortality occurred in red oak, elm, white oak, ash, hickory, and cottonwood. Elm mortality was primarily due to Dutch elm disease. Mortality of other species was due to a combination of old trees reaching the end of their lifespan, natural competition with other trees, flooding, and a variety of diseases and insects.

- Between 1985 and 1997, Illinois' average annual removals of growing stock were 67 million cubic feet. This equates to an average annual removal rate of 16 cubic feet of growing stock per acre for each of the 4.1 million acres of timberland in Illinois. This removal rate represents 1.1 percent of the total growing-stock volume in Illinois.

- About 30 percent of the total average annual removals from timberland were due to land-use change. This included timber cut during land-use change such as in conversion to cropland and lands that have been lost from timberland to other land-use classes where the trees may not have been cut. Much of the removals in State and National Forest ownership shown in table 24 were due to land-use change. Examples of public land-use change include the conversion of timberland to reserved forest land (such as when State-owned land that was available for harvest in the previous inventory is now a State Park); and marsh with trees (due to natural and/or artificial increases in water levels). Of the observed average annual 1.4 million cubic feet of growing-stock removals on State land, 0.3 million cubic feet were found on lands being added to State Parks (and thus "removed" from the timberland base) and 0.9 million cubic feet were on forest land that became marsh with trees between inventories (also removed from the timberland base). Because removals (due to harvesting and land-use change) are an uncommon event on

State and Federal lands, estimated removals for a particular ownership group can have large sampling errors because they are based on observations of only a few field plots. As a result, we encourage you to consult table 56 for the sampling errors and read the sampling error discussion in the appendix when using results related to removals.

- The removal rates, as a percent of total growing-stock volume by unit, were Southern 1.3 percent, Claypan 1.1 percent, and Prairie 1.1 percent. Limiting factors in the Prairie Unit regarding timber utilization for wood fiber are the distances that harvested logs have to travel for processing, a different species composition, and the small average ownership tract size compared to other units. The majority of the wood fiber industry in Illinois is in the southern portions of the State. As a result, only high-quality trees in northern Illinois warrant the additional travel costs associated with harvesting. There are opportunities to increase the number of portable sawmills because they can move to the trees rather than having the trees move to the processing facilities.

- The average annual removal rate for hardwood growing stock (66 million cubic feet) was 1.1 percent of the total hardwood growing-stock volume. Average annual removals of conifer growing stock were 1 million cubic feet, 0.6 percent of the total softwood growing-stock volume.

- Average annual net growth was more than double the average annual removal rate statewide and in all units (fig. 15). All units have an opportunity to increase their harvest rates without threatening long-term sustainability. In localized regions, removal rates are higher than the unit average. In these regions, removals for wood fiber industries might have to expand into broader drain areas, but wood fiber will be available based on the growth-to-removal ratios. Opportunities for expansion of wood fiber-based industries appear strong in all three units based on average annual net growth rates compared to average annual removal rates.

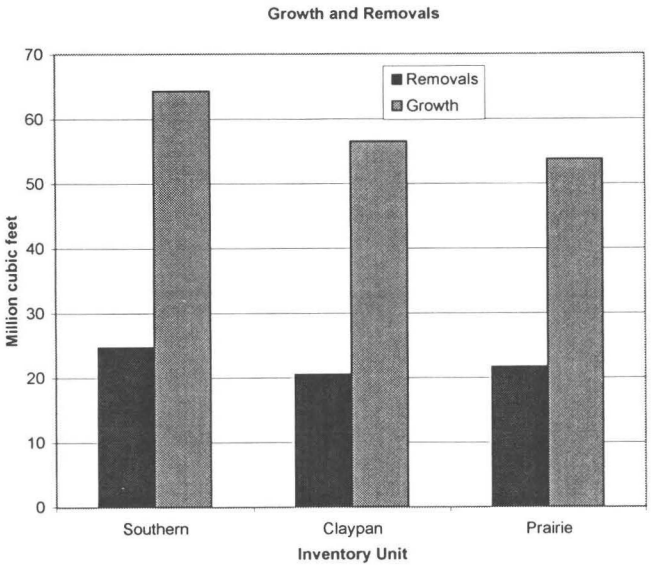

Figure 15.—*Average annual net growth and removals for hardwoods in Illinois by unit between 1985 and 1998.*

- Between 1985 and 1997, the primary species groups harvested (growing-stock removals) in Illinois were red oak, white oak, hickory, soft maple, ash, and sycamore. All these species groups averaged at least 3 million cubic feet of growing stock harvested each year between inventories.

- Illinois has the potential to increase its harvest rates over time due to the current growth-to-removals ratios and due to the large volume of wood fiber that currently exists in the State. For the past 30 + years, Illinois has been growing more wood fiber than what it has removed. Similar to putting money in the bank for future use, this "banked" wood fiber is available for future harvesting.

- With strong growth-to-removals ratios, increasing area of timberland, increasing total number of trees, increasing growing-stock volume, and strong overall regeneration rates, Illinois' citizens should be optimistic about the future for their forests. A primary goal for the future would be to ensure the continuation of these trends.

APPENDIX

PUBLIC ACCESS TO FIA DATA

The data collected in both the 1985 and 1998 Illinois inventories used to compile the resource tables presented in this bulletin can be easily accessed. Data can be obtained over the Internet by accessing the North Central Research Station website (http://www.ncfes.umn.edu/links.html) and clicking on the Databases and Analysis Tools button. Data from the inventories of every State used to develop the 1997 Resources Planning Act (RPA) assessment can also be accessed at this site. Three independent databases are maintained at this site: the National FIA Database, the National Resources Planning Act (RPA) Inventory Database, and the National Timber Products Output (TPO) RPA Database. Because 1998 Illinois inventory data were not available at the time of the 1997 RPA assessment, data from the 1985 Illinois inventory were used to represent Illinois in the RPA inventory database.

The National FIA Database contains data from the previous and current ground plot based inventories, which were used to produce the majority of the estimates in this report. This includes all estimates of area; number of trees; volume; biomass; average annual net growth, mortality, and removals; and current net growth and mortality. Data are stored so that users can download portions of the database onto their own computers and produce their own estimates, or they can use an on-line table generation program to create user-specified tables similar to those presented in this report. This database is described in Hansen *et al.* (1992) and is also documented on-line. Copies of the database and a table generation program are also available on a CD-ROM. This disc can be obtained from the Program Manager, FIA, North Central Research Station, 1992 Folwell Avenue, St. Paul, MN 55108, (651) 649-5139.

The National RPA Inventory Database contains data from all States and represents a "point-in-time" inventory. Illinois inventory results contribute to this database. RPA inventories are conducted on a 10-year cycle with mid-cycle updates every 5 years. RPA inventories differ from FIA inventories in that historically FIA inventories have been periodic and based on the year of completion of field work for any individual State. Results are published as soon as possible after the field work results are compiled and analyzed. RPA inventories use the FIA inventory results and update them to a common year. The most recent RPA inventory represents the FIA inventories of all 50 States, updated to the common year of 1997. Results are published on a regular cycle.

The National TPO RPA Database contains the data from a series of independent surveys of sawmills, pulp mills, fuelwood consumers, and other primary timber users summarized for 1996. This database was used to produce estimates of current annual removals. Users of this database can access a table generation program and obtain estimates of the current timber removals presented as well as current timber removals for other years and other States. May (1998) describes the NCFIA TPO Database, which was used to provide our input to the National TPO RPA Database.

ACCURACY OF THE 1998 ILLINOIS SURVEY

FIA information is based on a sampling procedure designed to provide reliable statistics at the State and Survey Unit levels. Consequently, the reported figures are estimates only. A measure of reliability of these figures is given by sampling errors (table B). Sampling errors for area, volume, growth, and removals, for both growing stock and sawtimber, in Illinois are shown in table 56. Sampling error means that the chances are two out of three that if a 100-percent inventory had been made (one sample plot at every point in the State), using the same methods, the results would have been within the limits indicated.

Table B.—*Sampling error for the 1998 inventory of Illinois's forests*

Item	State totals	Sampling error
Forest land	***Thousand acres***	***Percent***
Forest land area (1998)	4,331.3	1.49
Timberland area (1998)	4,087.0	1.61
All live	***Million cubic feet***	
Volume (1998)	6,700.3	2.18
Current net growth (1998)	201.3	1.99
Current mortality (1998)	118.8	3.11
Average annual net growth (1985-1997)	217.5	2.16
Average annual mortality (1985-1997)	107.3	3.22
Average annual removals (1985-1997)	80.6	10.05
Growing stock	***Million cubic feet***	
Volume (1998)	5,942.9	2.28
Current net growth (1998)	170.2	2.09
Current mortality (1998)	92.4	3.14
Average annual net growth (1985-1997)	174.5	2.45
Average annual mortality (1985-1997)	73.5	3.42
Average annual removals (1985-1997)	66.9	10.09
Sawtimber (International 1/4 inch rule)	***Million board feet***	
Volume (1998)	21,875.4	2.57
Current net growth (1998)	512.2	2.47
Current mortality (1998)	302.4	3.70
Average annual net growth (1985-1997)	663.6	2.63
Average annual mortality (1985-1997)	194.6	4.42
Average annual removals (1985-1997)	259.5	10.57

For example, the estimated growing-stock volume in Illinois in 1998, 5,942.9 million cubic feet, has a sampling error of ± 2.28 percent (± 135.5 million cubic feet). The growing-stock volume from a 100-percent inventory would be expected to fall between 5,807.4 million and 6,078.4 million cubic feet (5,942.9 ± 135.5), there being a one in three chance that this is not the case.

As survey data are broken down into sections smaller than State totals, sampling error increases. For example, the sampling error for timberland area in a county is higher than that for total timberland area in the State. The sampling error for estimated area of forest and timberland, volume, average annual net growth, and average annual removals of growing stock and sawtimber at the county and unit levels are presented in table 56. To estimate sampling error for other estimates smaller than State totals, use the following formula:

$$E = \frac{(SE)\ \sqrt{(\text{State total volume or area})}}{\sqrt{(\text{Volume or area smaller than State total})}}$$

Where:

E = Sampling error in percent.
SE = State total sampling error for volume or area.

For example, to compute the sampling error on the area of timberland in the maple-beech type for the State, proceed as follows:

1) Total statewide area of maple/beech type = 803.3 thousand acres.
2) Total statewide area of all timberland = 4,087.0 thousand acres.
3) The State total sampling error for timber land area = 1.61 percent.
4) Using the above formula:

$$E = \frac{0.0161\ \sqrt{4,087.0}}{\sqrt{803.3}}$$

E = 0.0363 or 3.6 percent sampling error for the maple-beech forest type.

The sampling error within a county depends primarily on the county size and the variability of the resource within the county. The more heavily forested counties in the State have sampling errors of between 5 and 15 percent for estimates of timberland area and between 5 and 20 percent for estimates of growing-stock volume. In counties where timberland area is less than 30,000 acres, the sampling errors will generally exceed 20 percent for timberland area and 30 percent for growing-stock volume. Because of the relatively high sampling error, counties with less than 30,000 acres of timberland were combined into county groups.

COMPARING THE FOURTH INVENTORY OF ILLINOIS WITH THE THIRD INVENTORY

A new volume estimation procedure was used to compute the 1998 volumes and to recompute the 1985 volume. Although the adjustment will differ by Survey Unit and species, the recomputed 1985 growing-stock and sawtimber volumes will generally be somewhat less than those shown in the 1985 report. The recomputed volume is 10.7 percent less than what was reported in the 1985 report for sawtimber and 2.6 percent less for growing stock.

A new algorithm was used in 1998 to assign forest type and stand-size class to each condition observed on a plot. This algorithm is being used nationwide by FIA to provide consistency from State to State. It was also used to reassign the forest type and stand-size class of every plot measured in the 1985 inventory so that changes in forest type and stand-size class would reflect actual changes in the forest and not changes due to a change in algorithms. The list of recognized forest types, grouping of these forest types for reporting purposes, equations used to assign stocking values to individual trees, definition of nonstocked, and names given to the forest types changed with the new algorithms. The current definition of nonstocked is stands with a stocking value of less than 10 percent for all live trees.

The basic building block for estimating forest area and timber volume has been changed from the Survey Unit to the county or county group. In the past, the statistics were developed at the Unit level and prorated back to the county on the basis of photo-interpretation points. Direct development of county-level data helps users interested in more precise local data, but can make data comparisons with past estimates misleading. For example, the 1985 inventory showed 15.1 thousand acres of white pine in the Prairie Unit. The 15.1 thousand acres were shown to occur in 50 of the 60 counties in the Unit (table 12, Raile and Leatherberry 1988) because area of timberland for each forest type was prorated back to each county. In this 1998 publication, we estimate that the total area of white pine in the Prairie Unit is 27.8 thousand acres (all in plantations), and table 3 shows that these acres occur in 8 of the 34 county groups. Survey Unit level comparisons of change between inventories are valid so the 12 thousand acre increase in white pine between 1985 and 1998 in the Prairie Unit is a valid estimate of the change that occurred across the entire Unit. However, it is not valid to estimate change at the county level; a statement such as white pine timberland increased in 7 county groups and disappeared from 40 other counties would not be valid because of the way the 1985 estimates were prorated to the county level.

SURVEY PROCEDURES

The 1998 Illinois survey used a two-phase sample for stratification that remeasured inventory plots from the 1985 inventory and used a growth model in the estimation of current conditions and change over time. Two-phase sampling, also called double sampling, consists of a phase-one sample to estimate area by strata and a phase-two sample to estimate the average value of parameters of interest within these strata. The estimated population total is the sum across all strata of the estimated strata area times the estimated mean.

Phase-one and phase-two plots were placed systematically across the entire State without regard to any particular land characteristics. All lands (forest, nonforest, water, marsh, agricultural, privately owned land, and public lands....) have the same probability of being sampled under this inventory system. The only land that could not be sampled was private land where field personnel could not

obtain permission from the owner of the land to measure a phase-two field plot. These denied-access plots were rare in Illinois (about 1 percent of the total forest plots statewide), and the methods used in the preparation of this report make the necessary adjustments to the estimates to account for denied-access plots.

New plots were only established to replace 1985 plots that could not be remeasured. These new plots were established as near as possible to the original plot. The growth model used in the Illinois survey design was the Central States Stand and Tree Evaluation and Modeling System (STEMS) (Miner *et al.* 1988). Because of the remeasurement nature of the 1998 inventory, procedures for both the 1985 and 1998 inventories are discussed.

Phase-One Stratification

1985 Photo Plot Sampling of Aerial Photographs

In the 1985 inventory, the aerial photographs were assembled into township mosaics, and a systematic grid of 121 one-acre photo plots (each plot representing approximately 190.4 acres) was overlaid on each township mosaic. Each of these photo plots was examined by aerial photo interpretation specialists and classified stereoscopically based on land use, forest type, and stand-size density. A total of 184,815 photo plots formed the basis for the 1985 stratification. From these photo plots, a systematic sample of 10,847 plots were selected as ground plots (without regard to their aerial photo classification) and further examined by survey crews to verify the classification and to take further measurements. Of the ground plots, 1,209 plots were on forest land and the rest were on nonforest land or water. These 1985 ground plots formed the basis for the remeasured ground plots in the 1998 inventory.

1998 Computer-assisted Classification of Satellite Images

Between inventories, FIA changed its phase-one methods. Current inventories use a computer-assisted classification of LandSat Thematic Mapper satellite imagery. Image classification was conducted by Illinois State University as part of the Gap Analysis Program (GAP). The purpose of GAP (a nationwide multiagency cooperative program) is to provide broad geographic information on the status of ordinary species and their habitats. FIA used the GAP classifications to form two initial strata: forest and nonforest (table C). Pixels within 60 m (2 pixel widths) of a forest/nonforest edge formed two additional strata: forest/nonforest and nonforest/forest. Forest pixels within 2 pixels of a nonforest pixel (in any direction) were classified forest/nonforest, and nonforest pixels within 2 pixels of a forest pixel were classified nonforest/forest. An overlay of all National Forest land ownership was used to identify all lands owned by the Shawnee National Forest. These National Forest lands were treated as a single stratum. Stratification and estimation were conducted at the county or county group level. In a few counties, the forest and forest/nonforest strata were combined because there were fewer than five ground plots in one of these strata. Final estimation of area by strata was based on these five strata: forest, forest/nonforest, nonforest/forest, nonforest, and National Forest land (table C).

Table C.—*Satellite image pixel classification, 1998 Illinois inventory*

Estimation strata	Total pixels
National Forest	1,335,799
Forest	11,450,064
Forest/Nonforest	12,462,762
Nonforest/Forest	24,001,477
Nonforest	130,424,402
All classes	179,674,504

In the 1985 inventory, the stratification was completed by interpretation of the photo plots. The move to GAP satellite imagery changed FIA's phase-one sample from being based on one photo plot every 190.4 acres to a sample based on a classified pixel every 0.22 acres. The increased intensity of the phase-one sample greatly improved estimates of the area with each stratum, particularly at the county level. Thus, the stratification used in the 1998 inventory was based on 179.7 million pixels rather than the classification of 184,815 photo plots. Also, because classification was conducted using a computer-assisted algorithm across the entire State, biases in the photo plot sampling method that resulted from

differences in photo quality, age of photography, and experience of the photo interpreter were eliminated and classification was consistent across the entire State.

Phase-Two Ground Plot Measurements

1985 Plot Design

In 1985, plots classified as timberland, wooded pasture, or windbreak (at least 120 feet wide) were measured. Each ground plot consisted of a cluster of 10 subplots systematically located over a 1-acre area. At each subplot, trees 5.0 inches or more in d.b.h. were sampled on a 37.5 Basal Area Factor (BAF) variable-radius plot, and trees less than 5.0 inches d.b.h. were sampled on a 1/300-acre fixed-radius plot. The arrangement of the 10 subplots within the plot was adjusted if any subplot was located in a land use that was different from subplot one. Under the estimation procedures used in this inventory, the entire plot measurement represented a single land classification, and this land classification was determined by subplot one. Thus, if a subplot was located outside of the land classification of subplot one, it was rotated into that land classification. For example, if subplots 1 through 9 were located in a forest land classification and subplot 10 fell in a pasture, subplot 10 was rotated back into the forest land classification. Under this system, subplot one determined the land classification and all 10 subplots measured the resource within this land class. These plots were established, monumented, and measured as part of the 1985 field inventory. Timberland, wooded pasture, and windbreak plots were monumented using metal stakes and permanent paint marks on trees that would facilitate the remeasurement of the plot. Plots on other land uses were monumented with a pinprick on the aerial photograph.

1998 Plot Design

In 1998 phase two, a set of ground plot locations from the 1985 inventory was transferred to the most recent aerial photographs available and overlaid onto the classified satellite imagery. These old plot locations formed the phase-two sample for the 1998 inventory. Phase-two measurement began with careful stereo examination of the plot location on the best available aerial photograph. Any plots that definitely were not forest land (based on stereo examination) were given a nonforest ground land-use classification and were not sent to the field for measurement unless the plot had been a forest plot in the 1985 inventory, or the plot was so close to a forest edge that part of it could possibly fall in a forest area. If any portion of the plot could possibly include forest land (including reserved forest land, unproductive forest land, and timberland), wooded pasture, or windbreaks (at least 120 feet wide), it was either remeasured or modeled. New plots were established only if the original plot could not be relocated, in which case a new plot was established in what was considered the original plot location.

Measuring ground plots on all forest lands represented a major change between the 1985 and 1998 inventories. In 1985, plots existed on reserved and unproductive forest land (as they did on all nonforest land classes), but only limited information was collected on these plots and the trees were not measured. Under that system, we were able only to report area of reserved and unproductive forest land by forest type, stand age, and ownership class. With the addition of tree measurements on these plots, we are now able to estimate all the attributes normally reported on timberlands for all forest lands, including reserved and unproductive forest lands.

All ground plots were classified as "undisturbed" or "disturbed" by comparing the 1985 and 1998 aerial photography of the plot location. Disturbance here refers to a major change in forest vegetation caused by factors such as harvesting, land-use change, or a major mortality event. All disturbed plots and a one-third sample of the undisturbed plots were remeasured to obtain estimates of current condition and changes since the last inventory. In the remeasurement of the 1985 ground plots, only subplots 1 through 5 were measured. On these five subplots, all trees measured in 1985 were remeasured or otherwise accounted for, and all new trees that should be tallied using the 1985 plot design were identified and measured. These measurements formed the basis for change estimates between the two inventories such as average annual net growth, mortality, and removals.

Two-thirds of the ground plots that were timberland at the time of the 1985 inventory

and determined to be undisturbed until the 1998 inventory were projected to the current time using STEMS. This procedure gave projected estimates of current volume and growth for these undisturbed plots. The comparison of the projected 1985 ground plots (two-thirds of the total sample) and observed values on the remeasured 1985 ground plots (one-third of the total sample) of the undisturbed forest plots provided local calibration data. The calibration data were used to adjust the projected values of the undisturbed plots that were not remeasured. The adjustment procedure is a modified version of the method described by Smith (1986).

The undisturbed timberland plots that were not remeasured played a crucial role in the survey design. These plots were determined to be undisturbed and had conditions that could be simulated by STEMS. The STEMS growth model was used to "grow" the old plot and tree data to produce an estimate of current data. Thus, these plots were treated as ground plots in the estimation of forest area, number of trees, volume, net growth, and mortality even though they were not revisited. The plot record for each modeled plot was sent to the field for verification of current ownership information.

All old plots classified as disturbed were sent to the field for remeasurement to assess and verify changes since the last inventory. Disturbance refers to any change on a plot that can be detected on the aerial photographs and that the STEMS growth processor cannot predict, such as catastrophic mortality, cutting, regenerating stands, and land-use change.

In the 1998 inventory, the new plot design used was based on the Forest Health Monitoring Program (FHM) plot design. The new 1998 design was laid over the 1985 design so that estimates of change could be based on the old plot design and estimates of current conditions could be based on the new plot design.

The overall plot layout for the new design consisted of four subplots spaced 120 feet apart in a triangular arrangement (fig. 16). The center of the new plot was located at the same point as the center of the 1985 plot. All trees less than 5 inches d.b.h. were measured on a 6.8 foot radius (1/300 acre) circular micro-plot located at the center of each of the four subplots. Trees with diameters 5 inches and larger were measured on a 24 foot radius (1/24 acre) circular plot. Each subplot was mapped for forest condition. Subplots were not rotated even if they fell into another condition. Factors that would determine a change in condition from subplot one were changes in forest type, stand-size class, land use, ownership, and density. Each condition that occurred anywhere on one of the subplots was identified, described, and mapped if the condition in total met or exceeded 1 acre in size (the 1-acre minimum size for a condition to be identified could include land off-plot). Each condition was assigned a condition number, and condition information was recorded.

The change in plot design from the 10-point variable-radius plot design used in 1985 to the four-subplot fixed-area plot design used in this inventory is a result of a national decision to use a single plot design for all FIA inventories nationwide. The rational for and specific

From Subplot Center	120' to subplot center	Azimuth
1	2	0°
1	3	120°
1	4	240°

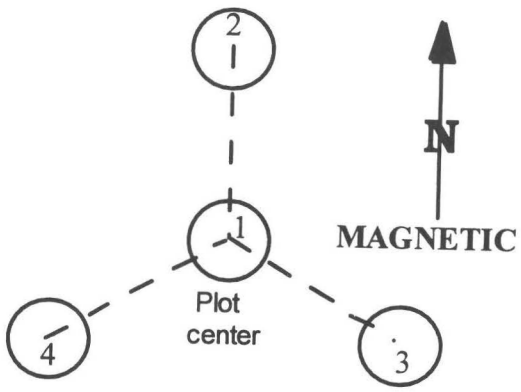

Figure 16.—*Standard plot layout for the 1998 Illinois inventory.*

details of this plot design are discussed in detail in Hahn *et al.* (1995) and other papers in Forest Science Monograph 31. Both plot designs provided estimates of all the resource information reported in FIA publications including estimates of area, volume, biomass, number of trees, growth, removals, mortality, and basal area. Both plot designs sampled trees of all sizes with known probability, a necessary factor in producing unbiased estimates. Both designs provided unbiased estimates of area. A slight bias in the sampling of large trees near forest-nonforest edge was associated with the variable-radius plot design and could bias estimates of volume but not area. This bias, although very small, could not be eliminated under the previous design. The elimination of this bias was one factor in the decision to change plot designs. This change was particularly important in a State like Illinois where much of the forest land is in small scattered woodlots and the amount of forest-nonforest edge relative to forest land is greater than in more heavily forested States.

The variable-radius design used in 1985 sampled larger trees with higher probability and thus provided better estimates (lower sampling errors) for attributes associated with tree size such as volume, biomass, and basal area. The new fixed-area design samples all trees 5 inches d.b.h. and larger with equal probability and thus provides better estimates for attributes such as number of trees that are not associated with tree size. On average, both sample designs measured about the same number of trees 5 inches d.b.h. and larger on each plot (18 sample trees per plot in 1985 and 16 sample trees per plot in 1998), and the observations of the major variables of interest such as total volume, growth, mortality, and removals were measured with somewhat larger measurement errors but no bias under the new design. The new design provides a better measurement of smaller trees and thus provides more information about regeneration, species diversity, and noncommercial trees.

Another change in plot measurements that came with the 1998 inventory was the determination of the exact plot location of every ground plot in the inventory. For plots that were visited in the field, this was done using a GPS device at plot center. For the nonforest and undisturbed forest plots that were not visited, plot location was determined by transferring the old plot location from the aerial photography to an unclassified, geo-corrected LandSat TM image. Both procedures provided an accurate location that was used to link the ground plots to the classified GAP data used for stratification.

ESTIMATION

The following sections briefly describe the estimation procedures used to produce the resource tables presented in this and other FIA reports as well as the estimates produced by the table generation programs that are available on CD-ROM or over the Internet. The estimation procedures for computing statistics from this sampling design are somewhat complicated by the fact that not all parameters of interest are observed on every plot. For estimation purposes, the inventory is considered as three different samples: one that uses only the plots that were actually remeasured, one that uses the remeasured and updated plots, and one that uses all plots (remeasured, updated, and new plots). Table D summarizes the distribution of all ground plots for the new inventory design by type of plot.

Table D.—*Distribution of ground plots for the 1998 inventory of Illinois's forest resources*

Ground land-use class	Old plots remeasured	Old plots updated	New plots	Total plots
Timberland	1,106	427	140	1,673
Reserved forest land	31	2	46	79
Nonforest with trees	235	26	28	289
Nonforest without trees	1,946	6,885	444	9,275
Census water	69	122	17	208
Total	3,387	7,462	675	11,524

All estimates from this inventory are based on double sampling for stratification. Cochran (1977) provides a good general presentation of double sampling for stratification, and Loetsch and Haller (1964) provide a more detaild presentation in a forest inventory context. Scott and Bechtold (1995) describe details of the estimation arising from changes in the plot design related to observing more than one condition on a plot.

Current (1998) Area

In double sampling for estimation, each phase-two sample (ground plot) in a stratum is assigned an area equal to the total estimated area in that stratum divided by the number of phase-two samples (ground plots) in the stratum. This assigned area is referred to as the expansion factor for the plot and represents the individual plot's contribution to the estimation of current total area. A typical plot in the 1998 inventory has an expansion factor of about 3.2 thousand acres. This will vary from plot to plot because of the random variability in the sampling process.

The 1998 plot design was used to estimate all 1998 area estimates such as those presented in tables 1-9, 31, and 32. When a ground plot was observed to be entirely within a single condition, the plots' contribution towards the estimated total area of that condition was the plot's total expansion factor. When a plot straddled more than one condition, the expansion factor was allocated to the various conditions in direct proportion to the proportion of the plot that each condition occupied. For example, a plot with an expansion factor of 3.2 thousand acres that was observed to be 50 percent in oak/hickory timberland, 30 percent in maple/beech timberland, and 20 percent in nonforest land would contribute 1.6 thousand acres to the total estimated area of oak-hickory timberland, 960 acres to the total estimated area of maple/beech timberland, and 640 acres to the total estimate of nonforest land. The estimates of current area were based on all ground plots (remeasured, projected, and new) and the five strata defined by the 1998 GAP classification.

The average expansion factor for a plot of 3,200 acres can be used to estimate approximately how many plots contribute to a particular area estimate. This is useful to users concerned with the significance of an estimate. For example, table 3 reports there are 36.1 thousand acres of timberland in the white pine type statewide. Using the 3.2 thousand acres per plot as an average expansion factor, we would estimate that about the equivalent of 11 plots were observed to be white pine timberland. In actuality, white pine timberland was observed on 13 plots. Of these 13 ground plots, 7 were entirely in the white pine type and the other 6 ground plots were partially in the white pine type. These six plots ranged from having 25 percent of the plot in white pine to having 75 percent of the plot in white pine.

Area Change (1985-1998)

Area change estimates such as those presented in table A were based only on remeasured and projected plots and use the five strata defined by the 1998 GAP classification. New plots were not included in the sample because they did not provide observations from two points in time. Area change estimates were based on the 1985 plot design and its remeasurement, the condition that was found at plot center in both inventories. These estimates thus reflect observations taken at 3,387 permanent points where determinations of land use, forest type, and other condition classifications were made at two different times (1985 and 1998). The average plot expansion factor for change estimation was 3.7 thousand acres, so a plot observed to be timberland in 1985 and nonforest in 1998 represented 3.7 thousand acres that changed from timberland to nonforest.

Volume

Estimates of volume per acre were made from the trees measured or modeled on all ground plots (remeasured, projected, and new) and the five strata defined by the 1998 GAP classification. These estimates came from measurements taken on the new 1998 plot design. Estimates of volume per acre were multiplied by the area estimates to obtain estimates of total volume. Net cubic foot volumes are based on Hahn and Hansen (1991) for use in the Central States. For the Illinois inventory, the merchantable height equation presented in Hahn and Hansen (1991) was used in conjunction with Stone's equation (see Appendix I in Hahn and Hansen 1991) to estimate gross

Diameter (in.)	Volume in board feet		Board feet per cubic foot	
	Doyle	International 1/4 inch	Doyle	International 1/4 inch
6	4	20	0.92	4.59
8	16	40	2.23	5.59
10	36	65	3.38	6.11
12	64	95	4.32	6.42
14	100	135	5.08	5.85
16	144	180	5.69	7.11
18	196	230	6.22	7.30
20	256	290	6.65	7.53
25	441	460	7.47	7.80
30	676	675	8.06	8.05
35	961	925	8.50	8.18
40	1,296	1,220	8.83	8.32

volume. This estimate was then corrected by species for variation in bark and cull volume to yield an estimate of net volume, using the coefficients presented in Hahn and Hansen (1991).

The Forest Service reports all board foot volume in International 1/4 inch rule. In Illinois, the Doyle log rule is commonly used. A comparison of board-foot volumes and board-foot to cubic-foot ratios for International 1/4 inch and Doyle log rules are listed above (Wenger 1984).

To determine the equivalent Doyle rule board-foot contents of a log from the International 1/4 inch rule, use the conversion table from below. For example, a 12-inch diameter log that is 16 feet long has an International 1/4 inch volume of 95 board feet. To convert to Doyle, multiply 95 by 0.67 to obtain 64 board feet, which is the Doyle equivalent for a 12-inch diameter 16-foot log.

Diameter of log small end (in.)	International 1/4 inch rule to Doyle rule conversion factors Length of log in feet					
	8	10	12	14	16	18
8	0.53	0.50	0.48	0.40	0.40	0.40
10	0.60	0.63	0.60	0.56	0.55	0.53
12	0.71	0.73	0.69	0.66	0.67	0.65
14	0.77	0.78	0.75	0.76	0.74	0.72
16	0.85	0.82	0.83	0.81	0.80	0.79
18	0.89	0.87	0.86	0.86	0.85	0.83
20	0.95	0.91	0.91	0.90	0.88	0.87
25	1.00	0.99	0.97	0.97	0.96	0.94
30	1.04	1.03	1.02	1.01	1.00	0.99
35	1.07	1.06	1.05	1.04	1.04	1.03
40	1.09	1.08	1.08	1.07	1.06	1.06

Net Growth, Mortality, and Removals

In this report, major components of changes in timber volume (growth, mortality, and removals) are reported for two different time periods. Average annual change is an estimate of the change that occurred between inventories. Current change is an estimate of the change that occurred in the final year of the inventory. Besides representing different periods in time, the methods used to estimate each component of change were different for the two periods.

Average annual net growth and mortality (1985-1997).—Estimates of average annual net growth and mortality per acre were made from the trees on plots measured in 1985 and then remeasured or modeled in 1998. The five strata defined by the 1998 GAP classification were used for stratification. All estimates of average annual net growth and mortality came from measurements taken using the 1985 plot design.

On remeasured plots, estimates of average annual net growth and mortality per acre came from the remeasured diameters of trees and from observation of trees that died between inventories, using methods presented by VanDeusen *et al.* (1986). Growth and mortality estimates for old undisturbed plots that were updated were derived in the same manner as remeasured plots. The STEMS growth model was adjusted by Survey Unit to meet local conditions, using data from the undisturbed remeasurement plots. As with volume, total growth and mortality estimates were obtained by multiplying the per acre estimates by area expansion factors.

Current net growth and mortality (1997).—Estimates of current net growth and mortality per acre were made from the trees on all ground plots (remeasured, projected, and new) and the new 1998 plot design. The five strata defined by the 1998 GAP classification were used for stratification. Data from every ground plot were projected forward 1-year using the adjusted STEMS model. These 1-year projections were treated as 1-year remeasurements. Thus, current net growth and mortality estimates represent change over a different period (1997 rather than 1985-1997), use more plots (all plots rather than remeasured and projected plots), are based on a different plot design (1998 design rather than the 1985 design), and use a different method of observation (growth model projections rather than remeasurement and growth model projections) when they are contrasted with average annual net growth and mortality estimates.

Average annual removals (1985-1997).—Estimates of average annual removals per acre were made from the trees on plots measured in 1985 and then remeasured in 1998. The 1985 photo plot sample was used for stratification. All estimates of average annual removals came from measurements taken using the 1985 plot design. New plots and projected plots were not used to estimate average annual removals. These estimates were obtained from trees measured in the last survey and cut or otherwise removed from the timberland base. Because remeasurement plots were a subset of the total ground plots, and not all remeasurement plots had cutting, average annual removals estimates have greater sampling probability of error than volume, net growth, and mortality estimates.

Current removals (1997).—Estimates of current removals were obtained from a mill survey that was independent of the inventory described here. In a mill survey, sawmills, pulp mills, and other primary timber users were sampled and responded to questions relating to the volume, source, and species of wood they received. This information was combined with estimates of logging utilization, land-use change, firewood removals, and other timber harvests to produce the estimates reported. The Illinois Department of Natural Resources-Division of Forestry provided valuable assistance in this effort by surveying all primary wood-using plants in the State. The methods used to estimate current removals are presented in Smith (1991). Because these estimates did not come from the plot measurement data, the procedures described above to obtain these estimates and associated sampling variabilities do not apply and cannot be obtained from the standard plot measurement FIA database. A special Timber Product Output database is maintained and can be used to obtain estimates of removals for any year. This database is described in May (1998).

TREE AND LOG GRADES

Log and tree grades were based on the classification of external characteristics as indicators

of quality. Log grades and or tree grades were taken on every sawtimber-size tree measured on the new 1998 four-point plot. Sawtimber softwood trees were graded for quality and assigned a butt log grade. Sawtimber hardwood trees were graded for quality and assigned a tree grade. The volume yield by log grade or tree grade for this sample was used to distribute the volume of the ungraded trees (those on projected plots) by species group. In previous inventories only a one-third sample of sawtimber trees were graded.

Hardwood sawtimber trees were graded according to Hanks (1976). The best 12-foot section of the lowest 16-foot hardwood log was used for grading. Hardwood sawtimber trees that did not meet minimum tree grade specifications for grades 1 through 3 were assigned grade 4 according to Forest Service standard specifications for hardwood construction logs described by Rast *et al.* (1973).

Softwood sawtimber trees were graded according to specifications described by Ostrander and Brisbin (1971). For all softwoods, the first merchantable 16-foot log, or shorter lengths down to 12 feet, was used for grading.

Hardwood Tree Grade for Factory Lumber [a]

Grade factor	Tree grade 1	Tree grade 2	Tree grade 3
Length of grading zone (feet)	Butt 16	Butt 16	Butt 16
Length of grading section [b] (feet)	Best 12	Best 12	Best 12
D.b.h., minimum (inches)	16[c]	13	11
D.i.b., minimum at top of grading section (inches)	13[c] 16 20	11[d] 12	8
Clear cuttings (on the 3 best faces)[e]			
Length, minimum (feet)	7 5 3	3 3	2
Number on face (maximum)	2	2 3	Unlimited
Yield in face length (minimum)	5/6	4/6	3/6
Cull deduction (including crook and sweep, but excluding shake) maximum within grading section (percent)	9	f	50

[a] Hanks (1976)

[b] Whenever a 14- or 16-foot section of the butt 16-foot log is better than the best 12-foot section, the grade of the longer section will become the grade of the tree. This longer section, when used, is the basis for determining the grading factors such as diameter and cull deduction.

[c] In basswood and ash, d.i.b. at top of grading section must be 12 inches and d.b.h. must be 15 inches.

[d] Grade 2 trees can be 10 inches d.i.b. at top of grading section if they otherwise meet surface requirements for small grade 1's.

[e] A clear cutting is a portion of a face free of defects, extending the width of the face. A face is one-fourth of the surface of the grading section as divided lengthwise.

[f] Fifteen percent crook and sweep or 40 percent total cull deduction are permitted in grade 2 trees, if size and surface of grading section qualify as grade 1. If rot shortens the required clear cuttings to the extent of dropping the butt log to grade 2, do not drop the tree's grade to 3 unless the cull deduction for rot is greater than 40 percent.

Forest Service Standard Specifications for Hardwood Construction Logs [a, b]

Position in tree	Butts and uppers
Minimum diameter small end	8 inches
Minimum length without trim	8 feet
Clear cuttings	No requirements
Sweep allowance	_th of the diameter at the small end for each 8 feet of length.
Sound surface defects:	
Single knots	Any number, if no one knot has an average diameter above the callus in excess of one-third of the log diameter at point of occurrence.
Whorled knots	Any number, if the sum of knot diameters above the callus does not exceed one-third of the log diameter at point of occurrence.
Holes	Any number, provided none has a diameter over one-third of the log diameter at point of occurrence and none extends more than 3 inches into included timber[c].
Unsound surface defects:	Same requirements as for sound defects if they extend into included timber. No limit if they do not. Logs must be sound internally.

[a] Rast *et al.* (1973).

[b] These specifications are minimum for the class. If, from a group of logs, factory logs are selected first, thus leaving only nonfactory logs from which to select construction logs, then the quality range of the construction logs so selected is limited, and the class may be considered a grade. If selection for construction logs is given first priority, it may be necessary to subdivide the class into grades.

[c] Included timber is always square, and dimension is judged from small end.

Eastern White Pine Sawlog Grade Specifications [a]

Grading factor	Log grade 1	Log grade 2	Log grade 3	Log grade 4
1. Minimum scaling diameter (inches)	14[b]	6	6	6
2. Minimum log leng (feet)	10[c]	8	8	8
3. Maximum weevil injury (number)	None	None	2 injuries [d]	No limit
4. Minimum face requirements	Two full length or four 50%[e] length good faces (in addition, log knots on balance of faces shall not exceed size limit of grade 2 logs).	**NO GOOD FACES REQUIRED** Maximum diameter of log knots on three best faces: **SOUND RED KNOTS** not to exceed 1/6 scaling diameter and 3" maximum; not to exceed 1/3 scaling diameter and 5" maximum **OVERGROWN/DEAD/BLACK KNOTS** not to exceed 1/12 scaling diameter and 1 1/2" max.; not to exceed 1/6 scaling diameter and 2 1/2" max.		Includes all logs not qualifying for No. 3 or better and having at least 1/3 of their gross volume in sound wood suitable for manufacture into standard lumber.
5. Maximum sweep or crook (%)	20	30	40	66 2/3
6. Maximum total scaling deduction (%)	50	50	50	66 2/3

After the tentative grade is established from face examination, the grade will be reduced whenever the following defects are evident:

7. Conks, punk knots, and pine borer damage on bark surface. [f]
   Degrade one grade if present on one face.
   Degrade two grades if present on two faces.
   Degrade three grades if present on three or more faces.
8. Log end defects: red rot, ring shake, heavy stain, and pine borer damage outside the heart center of log. [f] Consider log as having a total of 8 quarters (4 on each end) and degrade as indicated.
   Degrade one grade if present in 2 quarters of log ends.
   Degrade two grades if present in 3 or 4 quarters of log ends.
   Degrade three grades if present in 5 or more quarters of log ends.

a. Ostrander and Brisbin (1971)
b. 12- and 13-inch logs with four full-length good faces are acceptable.
c. 8-foot logs with four full-length good faces are acceptable.
d. 8-foot Number 3 logs limited to one weevil injury.
e. Minimum 50% length good face must be at least 6 feet.
f. Factors 7 and 8 are not cumulative (total degrade based on more serious of the two). No log is to be degraded below grade 4 if net scale is at least one-third of gross scale.

Log Grades for All Other Softwood Logs

Grade 1

1. Trees must be 16 inches in diameter or larger, grading section 12 feet in length or longer, and with deduction for defect not over 30 percent of gross scale.

2. Trees must be at least 75 percent clear on each of three faces.

3. All knots outside clear cutting must be sound and not more than 2-1/2 inches in size.

Grade 2

1. Trees must be 12 inches in diameter or larger, grading section 12 feet in length or longer, and with a net scale after deduction for defect of at least 50 percent of the gross scale deducted for defect.

2. Trees must be at least 50 percent clear on each of three faces or 75 percent clear on two faces.

Grade 3

1. Trees must be 6 inches in diameter or larger, grading section 12 feet in length or longer, and with a net scale after deduction for defect of at least 50 percent of the gross contents of the log.

Note: Diameters are diameter inside bark at small end of grading section. Percent clear refers to percent clear in one continuous section.

METRIC EQUIVALENTS

1 acre = 4,046.86 square meters or 0.405 hectare.
1,000 acres = 405 hectares.
1 cubic foot = 0.0283 cubic meter.
1 foot = 30.48 centimeters or 0.3048 meter.
1 inch = 25.4 millimeters, 2.54 centimeters, or 0.0254 meter.
1 pound = 0.454 kilograms.
1 ton = 0.907 metric ton.
1 foot^3/acre = 0.07 m^3/hectare.

TREE SPECIES GROUPS IN ILLINOIS

(Little 1981)

SOFTWOODS

Eastern redcedar ..... *Juniperus virginiana*
Tamarack ..... *Larix laricina*
White spruce ..... *Picea glauca*
Jack pine ..... *Pinus banksiana*
Shortleaf pine ..... *P. echinata*
Red pine ..... *P. resinosa*
Eastern white pine ..... *P. strobus*
Scotch pine ..... *P. sylvestris*
Virginia pine ..... *P. virginiana*
Baldcypress ..... *Taxodium distichum*

HARDWOODS

Hard maples[1]
- Black maple ..... *Acer nigrum*
- Sugar maple ..... *A. saccharum*

Soft maples[2]
- Red maple ..... *A. rubrum*
- Silver maple ..... *A. saccharinum*

Birches
- Yellow birch[1] ..... *Betula alleghaniensis*
- Gray birch[2] ..... *B. populifolia*
- River birch[2] ..... *B. nigra*
- Paper birch[2] ..... *B. papyrifera*

Select hickories[1]
- Pecan ..... *Carya illinoensis*
- Shellbark hickory ..... *C. lacinosa*
- Shagbark hickory ..... *C. ovata*
- Mockernut hickory ..... *C. tomentosa*

Other hickories[1]
- Water hickory ..... *C. aquatica*
- Bitternut hickory ..... *C. cordiformis*
- Pignut hickory ..... *C. glabra*

American chestnut[2] ..... *Castanea dentata*
Hackberry[2] ..... *Celtis occidentalis*
Common persimmon[1] ..... *Diospyros virginiana*
American beech[1] ..... *Fagus grandifolia*

Ashes
- White ash[1] ..... *Fraxinus americana*
- Black ash[2] ..... *F. nigra*
- Green ash[1] ..... *F. pennsylvanica*
- Blue ash[1] ..... *F. quadrangulata*

Butternut[2] ..... *Juglans cinerea*
Black walnut[1] ..... *Juglans nigra*
Sweetgum[2] ..... *Liquidambar styraciflua*
Yellow-poplar[2] ..... *Liriodendron tulipifera*
Water tupelo[2] ..... *Nyssa aquatica*
Black tupelo[2] ..... *N. sylvatica* var. *sylvatica*
Swamp tupelo (blackgum)[2] ..... *N. sylvatica* var. *biflora*
Sycamore[2] ..... *Platanus occidentalis*

Populus[2]
- Balsam poplar ..... *Populus balsamifera*
- Eastern cottonwood ..... *P. deltoides*
- Bigtooth aspen ..... *P. grandidentata*
- Quaking aspen ..... *P. tremuloides*

Black cherry[2] ..... *Prunus serotina*

Select white oaks[1]
- White oak ..... *Quercus alba*
- Swamp white oak ..... *Q. bicolor*
- Bur oak ..... *Q. macrocarpa*
- Swamp chestnut oak ..... *Q. michauxii*
- Chinkapin oak ..... *Q. muehlenbergii*

Other white oaks[1]
- Overcup oak ..... *Q. lyrata*
- Chestnut oak ..... *Q. prinus*
- Post oak ..... *Q. stellata*

Select red oak[1]
- Cherrybark oak ..... *Q. falcata* var. *pagodifolia*
- Northern red oak ..... *Q. rubra*
- Shumard oak ..... *Q. shumardii* var. *shumardii*

Other red oaks[1]
- Scarlet oak ..... *Q. coccinea*
- Northern pin oak ..... *Q. ellipsoidalis*
- Southern pin oak ..... *Q. falcata*
- Shingle oak ..... *Q. imbricarta*
- Blackjack oak ..... *Q. marilandica*
- Pin oak ..... *Q. palustris*
- Black oak ..... *Q. velutina*

Black willow[2] ..... *Salix nigra*
Sassafras[2] ..... *Sassafras albidum*
American basswood[2] ..... *Tilia americana*

Elms
- Winged elm[2] ..... *Ulmus alata*
- American elm[2] ..... *U. americana*
- Siberian elm[2] ..... *U. pumila*
- Slippery elm[2] ..... *U. rubra*
- Rock elm[1] ..... *U. thomasii*

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[1] *This species or species group is considered a hard hardwood, with an average specific gravity greater than or equal to 0.50.*

[2] *This species or species group is considered a soft hardwood, with an average specific gravity of less than 0.50.*

Other hardwoods
- Boxelder[2] ..... *Acer negundo*
- Ohio buckeye[2] ..... *Aesculus glabra*
- Yellow buckeye[2] ..... *A. octandra*
- European alder[2] ..... *Alnus glutinosa*
- Northern catalpa[2] ..... *Catalpa speciosa*
- Flowering dogwood[1] ..... *Cornus florida*
- Honeylocust[1] ..... *Gleditsia triacanthos*
- Kentucky coffeetree[1] .... *Gymnocladus dioicus*
- Mulberry[2] ..... *Morus* spp.
- White poplar[2] ..... *Populus alba*
- Black locust[1] ..... *Robinia pseudoacacia*

Noncommercial species
- Ailanthus ..... *Ailanthus altissima*
- Pawpaw ..... *Asimina triloba*
- American hornbeam ..... *Carpinus caroliniana*
- Eastern redbud ..... *Cercis canadensis*
- Hawthorn ..... *Crataegus* spp.
- Osage-orange ..... *Maclura pomifera*
- Apple ..... *Malus* spp.
- Eastern hophornbeam ..... *Ostrya virginiana*
- Pincherry ..... *Prunus pennsylvanica*
- Wild plum ..... *P.* spp.
- Chokecherry ..... *P. virginiana*
- Peachleaf willow ..... *Salix amygdaloides*
- Diamond willow ..... *S. bebbiana*
- American mountain ash ... *Sorbus americana*

DEFINITION OF TERMS

Average annual mortality of growing stock.—The average cubic foot volume of sound wood in growing-stock trees that died in one year. Average annual mortality is the average for the years between inventories (1985 to 1997 in this report).

Average annual mortality of sawtimber.—The average board foot volume of sound wood in sawtimber trees that died in one year. Average annual mortality is the average for the years between inventories (1985 to 1997 in this report).

Average annual removals from growing stock.—The average net growing-stock volume in growing-stock trees removed annually for roundwood forest products, in addition to the volume of logging residues, and the volume of other removals. Average annual removals of growing stock are the average for the years between inventories (1985 to 1997 in this report) and are based on information obtained from remeasurement plots (see Survey Procedures in the Appendix).

Average annual removals from sawtimber.—The average net board foot sawtimber volume of live sawtimber trees removed annually for roundwood forest products, in addition to the volume of logging residues, and the volume of other removals. Average annual removals of sawtimber are the average for the years between inventories (1985 to 1997 in this report) and are based on information obtained from remeasurement plots (see Survey Procedures in the Appendix).

Average annual net growth of growing stock.—The annual change in cubic foot volume of sound wood in live sawtimber and poletimber trees, and the total volume of trees entering these classes through ingrowth, less volume losses resulting from natural causes. Average annual net growth of growing stock is the average for the years between inventories (1985 to 1997 in this report).

Average annual net growth of sawtimber.—The annual change in the board foot volume of live sawtimber trees, and the total volume of trees reaching sawtimber size, less volume losses resulting from natural causes. Average annual net growth of sawtimber is the average for the years between inventories (1985 to 1997 in this report).

Basal area.—Tree area in square feet of the cross section at breast height of a single tree. When the basal areas of all trees in a stand are summed, the result is usually expressed as square feet of basal area per acre.

Biomass.—The aboveground volume of all live trees (including bark but excluding foliage) reported in green tons (i.e., green weight). Biomass has four components:

Bole.—Biomass of a tree from 1 foot above the ground to a 4-inch top outside bark.

Tops and limbs.—Total biomass of tree from a 1-foot stump minus the bole.

1- to 5-inch trees.—Total aboveground biomass of a tree from 1 to 5 inches in diameter at breast height.

Stump.—Biomass of a tree 5 inches d.b.h. and larger from the ground to a height of 1 foot.

Bolts.—Roundwood logs of less than 8 feet in length that are converted into shingles, cooperage stock, dimension stock, blocks,

blanks, excelsior, etc. No minimum diameter limits. Does not include logs used for the manufacture of pulp or veneer.

Commercial species.—Tree species presently or prospectively suitable for industrial wood products. (Note: Excludes species of typically small size, poor form, or inferior quality such as hophornbeam, Osage-orange, and redbud.)

Cord.—One standard cord is 128 cubic feet of stacked wood, including bark and air space. Cubic feet can be converted to solid wood standard cords by dividing by 79.

Corporate.—Lands owned by a private corporation not in the business of operating primary wood-using plants.

County and municipal land.—Land owned by counties and local public agencies or municipalities, or land leased to these governmental units for 50 years or more.

Cropland.—Land under cultivation within the last 24 months; including cropland harvested, crop failures, cultivated summer fallow, idle cropland used only for pasture, orchards, active Christmas tree plantations indicated by annual shearing, nurseries, and land in soil improvement crops, but excluding land cultivated in developing improved pasture.

Cull.—Portions of a tree that are unusable for industrial wood products because of rot, missing or dead material, form, or other defect.

Current annual net growth of growing stock.—The annual change in volume of sound wood in live sawtimber and poletimber trees, and the total volume of trees entering these classes through ingrowth, less volume losses resulting from natural causes, reported for a single year (1997 in this report). Current net growth is based on an estimate of the current annual increment of each growing-stock tree in the inventory.

Current annual net growth of sawtimber.—The annual change in the volume of live sawtimber trees, and the total volume of trees reaching sawtimber size, less volume losses resulting from natural causes, reported for a single year (1997 in this report). Current net growth is based on an estimate of the current annual increment of each growing-stock tree in the inventory.

Current annual removals from growing stock.—The current net growing-stock volume in growing-stock trees removed annually for roundwood forest products, in addition to the volume of logging residues, and the volume of other removals. Current annual removals of growing stock are reported for a single year (1997 in this report); they are based on a survey of primary wood processing mills to determine removals for products and on information from remeasurement plots (see Survey Procedures in the Appendix) to determine removals due to land-use change.

Current annual removals from sawtimber.—The current net board foot sawtimber volume of live sawtimber trees removed annually for roundwood forest products, in addition to the volume of logging residues, and the volume of other removals. Current annual removals of sawtimber are reported for a single year (1997 in this report); they are based on a survey of primary wood processing mills to determine removals for products and on information from remeasurement plots (see Survey Procedures in the Appendix) to determine removals due to land use change.

Diameter class.—A classification of trees based on diameter outside bark, measured at breast height 4.5 feet above the ground. (Note: d.b.h. is the common abbreviation for diameter at breast height.) Two-inch diameter classes are commonly used in Forest Inventory and Analysis, with the even inch the approximate midpoint for a class. For example, the 6-inch class includes trees 5.0 through 6.9 inches d.b.h.

Diameter at breast height (d.b.h.).—The outside bark diameter at 4.5 feet (1.37 m) above the forest floor on the uphill side of the tree. For determining breast height, the forest floor includes the duff layer that may be present, but does not include unincorporated woody debris that may rise above the ground line.

Forest industry land.—Land owned by companies or individuals operating primary wood-using plants.

Forest land.—Land at least 10 percent stocked by forest trees of any size, or formerly having had such tree cover, and not currently developed for nonforest use. (Note: Stocking is measured by comparing specified standards with basal area and/or number of trees, age or size, and spacing.) The minimum area for classification of forest land is 1 acre. Roadside, streamside, and windbreak strips of timber must have a crown width of at least 120 feet to qualify as forest land. Unimproved roads and trails or clearings in forest areas shall be classed as forest if less than 120 feet wide. Water bodies (rivers, streams, or lakes) less than 30 feet in width shall be classed as forest. Water bodies more than 30 feet in width are classified as water (See Tree, Land, Timberland, Reserved forest land, Other forest land, Stocking, and Water.)

Forest type.—A classification of forest land based on the species forming a plurality of the live tree stocking. FIA forest type classification is based on the tree species that were found on the plot and a national algorithm with regional modifications. Under this system, a forest condition is initially classified into a forest type group. These forest type groups are defined at a national level and not all forest type groups occur within a State. For example, the aspen-birch type group does not occur in Illinois and therefore does not appear in this report. Within these forest type groups, local (State-specific) forest types are recognized within a State. In some cases, only one local forest type is defined within a forest type group for a State, and in other forest type groups there may be two or more local types recognized within a type group. Table 3 displays the forest type groups and local forest types. The following descriptions of each of the forest type groups and local forest types that were identified in Illinois are based on the algorithms used to classify the conditions. The lists of associated species (species not in the type name that are commonly found growing in the forest type) and other comments are based on the data observed on plots from this inventory.

White-red-jack pine.—Forests in which eastern white pine, red pine, and jack pine, singly or in combination, comprise the plurality of the stocking. Illinois is on the very southern range of this forest type group. The natural ranges of red and jack pine do not extend into Illinois and eastern white pine naturally occurs only in the northern portions of the State.

White pine.—Forests in which eastern white pine comprises a plurality of the stocking. Illinois is on the very southern range of eastern white pine and it rarely predominates stocking in natural stands. The stands classified as white pine in this report were all planted stands including overgrown Christmas tree plantations. Red pine, Scotch pine, and other planted species are common associates in these stands as well as other pioneer species such as eastern redcedar, black cherry, and yellow-poplar that seed in and become established in these plantations.

Loblolly-shortleaf pine.—Forests in which loblolly pine and shortleaf pine, singly or in combination, comprise the plurality of the stocking. Illinois is on the very northern range of this forest type group. The natural range of loblolly pine does not extend into Illinois and shortleaf pine naturally occurs only in the southern portions of the State.

Shortleaf pine.—Forests in which shortleaf pine comprises the plurality of the stocking. The stands classified as shortleaf pine in this report are for the most part planted stands. Yellow-poplar, eastern cottonwood, and black cherry are common associates in these stands after they seed in and become established in these plantations.

Oak-pine.—Forests in which hardwoods, singly or in combination, comprise the plurality of the stocking and where softwoods comprise 25 to 50 percent of the stocking. In Illinois, this may or may not be a natural forest type. Many stands that are classified in this group are on disturbed sites that are in transition or are softwood plantations that have a large hardwood component.

Eastern redcedar.—Forests in which eastern redcedar comprises the plurality of the stocking. These are primarily heavily disturbed sites such as abandoned agricultural land and pastures where eastern redcedar has become established.

Eastern redcedar-hardwood.—Forests in which hardwoods, singly or in combination, comprise the plurality of the stocking and where eastern redcedar comprises 25 to 50 percent of the stocking. In Illinois, the hardwood component of these stands is primarily yellow-poplar, red oak, white oak, hickory, and ash.

Oak-pine.—Forests in which oaks and hickories, singly or in combination, comprise the plurality of the stocking and where pine comprises 25 to 50 percent of the stocking. In Illinois, these can be naturally occurring shortleaf pine-oak stands or pine plantations that have large hardwood components.

Oak-hickory.—Forests in which upland oaks and hickories, singly or in combination, comprise the plurality of the stocking.

Chestnut-scarlet oak.—Forests in which upland oaks and hickories, singly or in combination, comprise the plurality of the stocking, and chestnut oak, scarlet oak, post oak, or blackjack oak comprise at least 50 percent of the total stocking.

White oak-red oak-hickory.—Forests in which upland oaks and hickories, singly or in combination, comprise the plurality of the stocking and they do not meet the stocking criteria for chestnut-scarlet oak. Species commonly associated with this forest type include ash, elm, black cherry, sassafras, black locust, and black walnut.

Oak-gum-cypress.—Forests in which tupelo, blackgum, sweetgum, bottomland oaks, or cypress, singly or in combination, comprise a plurality of the stocking. Species commonly associated with this forest type in Illinois include sycamore, soft maple, black cherry, and elm.

Elm-ash-cottonwood.—Forests in which lowland elm, ash, soft maple, or cottonwood, singly or in combination, comprise a plurality of the stocking.

Elm-ash-soft maple.—Forests in which lowland elm, ash, soft maple, or cottonwood, singly or in combination, comprise a plurality of the stocking. Species commonly associated with the elm-ash-soft maple forest type in Illinois include cottonwood, sycamore, hackberry, boxelder, honeylocust, willow, and river birch.

Maple-beech-birch.—Forests in which hard maple, beech, yellow birch, basswood, upland elm, ash, and soft maple, singly or in combination, comprise a plurality of the stocking. This forest type group is typically found on better upland sites.

Maple-beech.—Forests classified in the maple-beech-birch type group in Illinois. Yellow birch is rare in Illinois and the name maple-beech reflects this fact. Species commonly associated with the maple-beech forest type in Illinois include elm, black walnut, basswood, black cherry, ash, and yellow-poplar.

Nonstocked.—Forest stands that do not meet minimum stocking levels and therefore cannot be assigned a forest stand. These stands are primarily recent clearcuts, or fire or storm-damaged areas where regeneration has not yet been established. Nonforest areas that are converting to forest will not be classified as nonstocked because once they have the minimum stocking necessary to be classified as forest they can also be assigned a forest type.

Growing-stock tree.—A live tree of commercial species that meets specified standards of size, quality, and merchantability. (Note: Excludes rough, rotten, and dead trees.)

Growing-stock volume.—Net volume in cubic feet of growing-stock trees 5.0 inches d.b.h. and over, from 1 foot above the ground to a minimum 4.0-inch top diameter outside bark of the central stem or to the point where the central stem breaks into limbs.

Hard hardwoods.—Hardwood species with an average specific gravity greater than 0.50 such as oaks, hard maple, hickories, and ash.

Hardwoods.—Dicotyledonous trees, usually broad-leaved and deciduous. (See Soft hardwoods and Hard hardwoods.)

Improved pasture.—Land currently improved for grazing by cultivating, seeding, irrigating, or clearing trees or brush and less than 10 percent stocked with trees.

Indian land.—Land held in trust by the United States for tribes or individual Indians.

Industrial wood.—All roundwood products except residential fuelwood.

Land.—*(a) Bureau of the Census.* Dry land and land temporarily or partly covered by water such as marshes, swamps, and river flood plains (omitting tidal flats below mean high tide); streams, sloughs, estuaries, and

canals less than one-eighth of a statute mile wide; and lakes, reservoirs, and ponds less than 40 acres in area.

(b) Forest Inventory and Analysis. The same as the Bureau of the Census, except minimum width of streams, etc., is 120 feet and minimum size of lakes, etc., is 1 acre.

Live trees.—Growing-stock, rough, and rotten trees 1.0 inch d.b.h. and larger.

Log grade.—A log classification based on external characteristics as indicators of quality or value. Log grade was assigned to a sample of softwood sawtimber trees throughout the State during the 1998 inventory. Also see Tree grade. (See the Appendix for specific grading factors used.)

Logging residue.—The unused portions of cut trees, plus unused trees killed by logging.

Marsh.—Nonforest land that characteristically supports low, generally herbaceous or shrubby vegetation, and that is intermittently covered with water.

Merchantable.—Refers to a pulpwood or saw-log section that meets pulpwood or saw-log specifications, respectively.

Miscellaneous Federal land.—Federal land other than National Forest and land administered by the Bureau of Land Management or Bureau of Indian Affairs.

National Forest land.—Federal land that has been legally designated as National Forest or purchase units, and other land administered by the USDA Forest Service.

Net volume.—Gross volume less deductions for rot, sweep, or other defect affecting use for timber products.

Noncommercial species.—Tree species of typically small size, poor form, or inferior quality that normally do not develop into trees suitable for industrial wood products.

Nonforest land.—Land that has never supported forests, and land formerly forested where use for timber management is precluded by development for other uses. (Note: Includes areas used for crops, active Christmas tree plantations as indicated by annual shearing, orchards, nurseries, improved pasture, residential areas, city parks, improved roads of any width and adjoining clearings, powerline clearings of any width, and 1- to 40-acre areas of water classified by the Bureau of the Census as land.) If intermingled in forest areas, unimproved roads and nonforest strips must be more than 120 feet wide and more than 1 acre in area to qualify as nonforest land.

Nonforest land without trees.—Nonforest land with no live trees present.

Nonforest land with trees.—Nonforest land with one or more trees per acre at least 5 inches d.b.h.

Nonstocked land.—Timberland less than 10 percent stocked with all live trees.

Other forest land.—Forest land not capable of producing 20 cubic feet per acre per year of industrial wood crops under natural conditions and not associated with urban or rural development. Many of these sites contain tree species that are not currently utilized for industrial wood production or trees of poor form, small size, or inferior quality that are unfit for most industrial products. Unproductivity may be the result of adverse site conditions such as sterile soil, dry climate, poor drainage, high elevation, and rockiness. This land is not withdrawn from timber utilization.

Other removals.—Growing-stock trees removed but not utilized for products, or trees left standing but "removed" from the timberland classification by land use change. Examples are removals from cultural operations such as timber stand improvement work and land clearing, and the standing volume on land classified originally as timberland but later designated as reserved from timber harvesting (such as a newly established State Park).

Ownership size class.—The amount of timberland owned by one owner, regardless of the number of parcels.

Pasture.—Land presently used for grazing or under cultivation to develop grazing.

Physiographic class.—A measure of soil and water conditions that affect tree growth on a site. The physiographic classes are:

Xeric sites.—Very dry soils where excessive drainage seriously limits both growth and

species occurrence. Example: eastern redcedar barrens.

Xeromesic sites.—Moderately dry soils where excessive drainage limits growth and species occurrence to some extent. Example: dry oak ridge.

Mesic sites.—Deep, well-drained soils. Growth and species occurrence are limited only by climate. Example: well-drained terraces of loamy soil.

Hydromesic sites.—Moderately wet soils where insufficient drainage or infrequent flooding limits growth and species occurrence to some extent. Example: moderately drained bottomland hardwood sites.

Hydric sites.—Very wet sites where excess water seriously limits both growth and species occurrence. Example: frequently flooded river bottoms.

Plant byproducts.—Plant residues used for products such as mulch, pulp chips, and fuelwood.

Plantation.—An artificially reforested area sufficiently productive to qualify as timberland. The planted species is not necessarily predominant. Christmas tree plantations, which are considered cropland, are not included.

Plant residues.—Wood and bark materials generated at manufacturing plants during production of other products.

Poletimber stand.—(See Stand-size class.)

Poletimber tree.—A live tree of commercial species at least 5.0 inches d.b.h., but smaller than sawtimber size.

Potential productivity class.—A classification of forest land in terms of inherent capacity to grow crops of industrial wood. The class identifies the potential growth in merchantable cubic feet/acre/year at culmination of mean annual increment of fully stocked natural stands.

Private individual land.—Privately owned land not owned by forest industry. This class includes the formerly used Farmer and Miscellaneous private classes.

Reserved forest land.—Forest land withdrawn from timber utilization through statute, administrative regulation, or designation. Note: historically, Christmas tree plantations were classified as reserved forest land. However, Christmas tree plantations are now classified as cropland.

Rotten tree.—Live trees of commercial species that do not contain at least one 12-foot saw log or two saw logs 8 feet or longer, now or prospectively, and/or do not meet regional specifications for freedom from defect primarily because of rot; that is, when more than 50 percent of the cull volume in a tree is rotten.

Rough tree.—(a) Live trees of commercial species that do not contain at least one merchantable 12-foot saw log or two saw logs 8 feet or longer, now or prospectively, and/or do not meet regional specifications for freedom from defect primarily because of roughness or poor form, and (b) all live trees of noncommercial species.

Roundwood products.—Logs, bolts, or other round sections (including chips from roundwood) cut from trees for industrial or consumer uses. (Note: Includes saw logs, veneer logs, and bolts; cooperage logs and bolts; pulpwood; fuelwood; pilings; poles; posts; hewn ties; mine timbers; and various other round, split, or hewn products.)

Salvable dead tree.—A standing or down dead tree considered merchantable by regional standards.

Sapling.—A live tree 1.0 to 5.0 inches d.b.h.

Sapling-seedling stand.—(See Stand-size class.)

Saw log.—A log meeting minimum standards of diameter, length, and defect, including logs at least 8 feet long, sound and straight and with a minimum diameter outside bark (d.o.b.) for softwoods of 7.0 inches (9.0 inches for hardwoods) or other combinations of size and defect specified by regional standards.

Saw-log portion.—That part of the bole of sawtimber trees between the stump and the saw-log top.

Saw-log top.—The point on the bole of sawtimber trees above which a saw log cannot

be produced. The minimum saw-log top is 7.0 inches d.o.b. for softwoods and 9.0 inches d.o.b. for hardwoods.

Sawtimber stand.—(See Stand-size class.)

Sawtimber tree.—A live tree of commercial species containing at least a 12-foot saw log or two noncontiguous saw logs 8 feet or longer, and meeting regional specifications for freedom from defect. Softwoods must be at least 9.0 inches d.b.h. Hardwoods must be at least 11.0 inches d.b.h.

Sawtimber volume.—Net volume of the saw-log portion of live sawtimber in board feet, International 1/4-inch rule (unless specified otherwise), from stump to a minimum 7.0 inches top d.o.b. for softwoods and a minimum 9.0 inches top d.o.b. for hardwoods.

Seedling.—A live tree less than 1.0 inch d.b.h. that is expected to survive. Only softwood seedlings more than 6 inches tall and hardwood seedlings more than 1 foot tall are counted.

Short-log (rough tree).—A sawtimber-size tree of commercial species that contains at least one merchantable 8- to 11-foot saw log but not a 12-foot saw log.

Shrub.—A woody, perennial plant differing from a perennial herb in its persistent and woody stem(s) and less definitely from a tree in its lower stature and/or the general absence of a well-defined main stem. For this report, shrubs were separated somewhat arbitrarily into tall and low shrubs as follows:

Tall shrubs.—Normally taller than 1.6 to 3.2 feet (0.5 to 1.0 meter).

Low shrubs.—Normally shorter than 1.6 to 3.2 feet (0.5 to 1.0 meter). (Woody perennial vines, such as grape, were included with low shrubs.)

Shrub and tree seedling biomass.—The total aboveground weight of trees less than 1.0 inch in diameter and all shrubs.

Site index.—An expression of forest site quality based on the height of a free-growing dominant or codominant tree of a representative species in the forest type at age 50.

Soft hardwoods.—Hardwood species with an average specific gravity less than 0.50, such as cottonwood, red maple, basswood, and willow.

Softwoods.—Coniferous trees, usually evergreen, having needles or scale-like leaves.

Stand.—A group of trees on a minimum of 1 acre of forest land that is stocked by forest trees of any size.

Stand-age class.—A classification based on age of the main stand. Main stand refers to trees of the dominant forest type and stand-size class.

Stand-size class.—A classification of stocked (see Stocking) forest land based on the size class of live trees on the area; that is, sawtimber, poletimber, or seedlings and saplings.

Sawtimber stands.—Stands with half or more of live tree stocking in sawtimber or poletimber trees, and with sawtimber stocking at least equal to poletimber stocking.

Poletimber stands.—Stands with half or more of live tree stocking in poletimber and/or sawtimber trees, and with poletimber stocking exceeding that of sawtimber.

Sapling-seedling stands.—Stands with more than half of the live tree stocking in saplings and/or seedlings.

State land.—Land owned by the State of Illinois or leased to it for 50 years or more.

Stocking.—The degree of occupancy of land by live trees, measured by basal area and/or the number of trees in a stand by size or age and spacing, compared to the basal area and/or number of trees required to fully utilize the growth potential of the land; that is, the stocking standard. A stocking percent of 100 indicates full utilization of the site and is equivalent to 80 square feet of basal area per acre in trees 5.0 inches d.b.h. and larger. In a stand of trees less than 5 inches d.b.h., a stocking percent of 100 would indicate that the present number of trees is sufficient to produce 80 square feet of basal area per acre when the trees reach 5 inches d.b.h.

Stands are grouped into the following stocking classes:

Overstocked stands.—Stands in which stocking of live trees is 100 percent or more.

Fully stocked stands.—Stands in which stocking of live trees is from 61 to 99 percent.

Medium stocked stands.—Stands in which stocking of live trees is from 36 to 60 percent.

Poorly stocked stands.—Stands in which stocking of live trees is from 10 to 35 percent.

Nonstocked areas.—Timberland on which stocking of live trees is less than 10 percent.

Timber products output.—All timber products cut from roundwood and byproducts of wood manufacturing plants. Roundwood products include logs, bolts, or other round sections cut from growing-stock trees, cull trees, salvable dead trees, trees on nonforest land, noncommercial species, sapling-size trees, and limbwood. Byproducts from primary manufacturing plants include slabs, edging, trimmings, miscuts, sawdust, shavings, veneer cores and clippings, and screenings of pulpmills that are used as pulpwood chips or other products.

Timberland.—Forest land that is producing, or is capable of producing, more than 20 cubic feet per acre per year of industrial wood crops under natural conditions, that is not withdrawn from timber utilization, and that is not associated with urban or rural development. Currently inaccessible and inoperable areas are included. (Timberland was formerly called commercial forest land.)

Tree.—A woody plant usually having one or more erect perennial stems, a stem diameter at breast height of at least 3 inches, a more or less definitely formed crown of foliage, and a height of at least 13 feet at maturity.

Tree biomass.—The total aboveground weight (including the bark but excluding the foliage) of all trees from 1 to 5 inches in d.b.h., and the total aboveground weight (including the bark but excluding the foliage) from a 1-foot stump for trees more than 5 inches in diameter.

Tree grade.—A classification of the lower 16 feet of the bole of standing trees based on external characteristics as indicators of the quality and quantity of lumber that could be produced from the tree. Tree grade was assigned to a sample of hardwood sawtimber trees during the 1998 inventory. Also see Log grade. (See the Appendix for specific grading factors used.)

Tree size class.—A classification of trees based on diameter at breast height, including sawtimber trees, poletimber trees, saplings, and seedlings.

Upper stem portion.—That part of the bole of sawtimber trees above the saw-log top to a minimum top diameter of 4.0 inches d.o.b., or to the point where the central stem breaks into limbs.

Urban and other areas.—Areas within the legal boundaries of cities and towns; suburban areas developed for residential, industrial, or recreational purposes; school yards; cemeteries; roads; railroads; airports; beaches; powerlines and other rights-of-way; or other nonforest land not included in any other specified land use class.

Urban forest land.—Land that would otherwise meet the criteria for timberland, but that is in an urban-suburban area surrounded by commercial, industrial, or residential development and not likely to be managed for the production of industrial wood products on a continuing basis. Wood removed would be for land clearing, fuelwood, or esthetic purposes. Such forest land may be associated with industrial, commercial, residential subdivision, industrial parks, golf course perimeters, airport buffer strips, and public urban parks that qualify as forest land.

Water.—*(a) Bureau of the Census.*—Permanent inland water surfaces, such as lakes, reservoirs, and ponds at least 40 acres in area; and streams, sloughs, estuaries, and canals at least one-eighth of a statute mile wide.

(b) Noncensus.—Permanent inland water surfaces, such as lakes, reservoirs, and ponds from 1 to 39.9 acres in area; and streams, sloughs, estuaries, and canals from 120 feet to one-eighth of a statute mile wide.

Wooded pasture.—Improved pasture with more than 10 percent stocking in live trees, but less than 25 percent stocking in growing-stock trees. Area is currently improved for grazing or there is other evidence of grazing.

Wooded strip.—An acre or more of natural continuous forest land that would otherwise meet survey standards for timberland except that it is less than 120 feet wide.

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TABLE TITLES

Table 1.—Area of land by Forest Survey Unit, county/county group, and major land-use class, Illinois, 1998

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Table 1. -- Area of land by Forest Survey Unit, county/county group, and major land-use class, Illinois, 1998

(In thousand acres)

Forest Survey Unit and county/county group	Total land area [1]	Forest land				Other land [2]
		Total forest	Timberland	Reserved forest land	Other forest land	
Southern Unit						
Alexander	151.3	70.7	70.7	--	--	80.6
Franklin	263.7	55.4	55.4	--	--	208.3
Gallatin	207.2	41.5	41.5	--	--	165.7
Hamilton	278.5	37.1	37.0	0.1	--	241.4
Hardin	114.1	64.5	64.5	--	--	49.7
Jackson	376.4	141.3	137.7	3.5	--	235.1
Johnson	221.5	87.7	80.3	7.4	--	133.9
Massac	153.0	31.8	29.3	2.5	--	121.2
Perry	282.2	48.6	46.4	2.2	--	233.6
Pope	237.4	158.4	150.9	7.5	--	79.0
Pulaski	128.5	41.8	41.8	--	--	86.6
Randolph	370.2	84.4	84.4	--	--	285.9
Saline	245.3	61.7	57.7	3.9	--	183.6
Union	266.4	115.6	90.0	25.6	--	150.8
White	316.8	43.3	43.3	--	--	273.5
Williamson	271.5	92.5	87.8	4.7	--	179.0
Total	3,884.0	1,176.2	1,118.8	57.4	--	2,707.8
Claypan Unit						
Bond	243.3	40.9	40.9	--	--	202.4
Calhoun	162.5	69.3	68.2	1.1	--	93.2
Clark	321.0	60.0	60.0	--	--	261.1
Clay	300.3	44.4	44.4	--	--	255.9
Clinton, Washington	663.6	80.9	78.2	2.7	--	582.8
Crawford	283.9	53.1	53.1	--	--	230.8
Cumberland, Jasper	537.9	70.3	70.3	--	--	467.6
Edwards, Wabash	285.3	35.5	35.5	--	--	249.9
Effingham	306.4	60.4	60.4	--	--	246.1
Fayette	458.6	82.1	77.9	4.2	--	376.5
Greene	347.6	44.4	44.4	--	--	303.2
Jefferson	365.5	70.6	70.6	--	--	294.9
Jersey	236.3	46.4	40.0	6.4	--	190.0
Lawrence	238.1	30.9	29.2	1.7	--	207.2
Macoupin	552.8	75.5	75.5	--	--	477.3
Madison	464.0	60.0	60.0	--	--	404.0
Marion	366.3	88.2	83.2	4.9	--	278.1
Monroe	248.5	57.3	57.3	--	--	191.2
Montgomery	450.5	46.6	46.6	--	--	403.9
Richland	230.5	40.8	40.8	--	--	189.7
St. Clair	424.9	53.0	53.0	--	--	371.9
Shelby	485.5	40.9	40.9	--	--	444.6
Wayne	456.9	62.9	62.9	--	--	394.0
Total	8,430.3	1,314.3	1,293.3	21.0	--	7,116.0

(Table 1 continued on next page)

(Table 1 continued)

Forest Survey Unit and county/county group	Total land area [1]	Forest land				Other land [2]
		Total forest	Timberland	Reserved forest land	Other forest land	
Prairie Unit						
Adams	548.3	101.3	97.6	3.7	--	447.0
BoDeKaMc	1,305.9	42.5	41.6	0.8	--	1,263.4
Brown	195.6	56.3	52.6	3.7	--	139.4
Bureau	555.9	39.2	39.2	--	--	516.7
Carroll, Stephenson	645.4	57.7	55.7	2.0	--	587.7
Cass	240.6	37.8	33.9	3.9	--	202.8
ChChDeFoLiMaMcMoPi	3,950.9	84.4	66.2	18.2	--	3,866.5
CoDoEd	991.2	56.9	51.7	5.2	--	934.3
CoDuLaWi	1,641.6	110.4	35.4	75.0	--	1,531.2
Fulton	554.0	100.3	100.3	--	--	453.7
GrKeLa	1,200.5	52.1	49.1	3.0	--	1,148.4
Hancock	508.6	53.9	53.9	--	--	454.7
Henderson	242.5	41.9	35.7	6.2	--	200.6
Henry, Stark	711.2	34.5	31.8	2.7	--	676.7
Iroquois, Kankakee	1,148.3	36.8	36.8	--	--	1,111.5
Jo Daviess	384.7	60.9	56.5	4.4	--	323.7
Knox, Warren	805.6	57.4	57.0	0.4	--	748.3
Lee, Whiteside	902.6	43.6	43.6	--	--	859.0
Logan, Tazewell	810.9	38.5	38.5	--	--	772.4
Marshall, Putnam	349.4	47.8	47.8	--	--	301.6
Mason, Menard	546.0	55.0	47.0	8.0	--	491.0
Mc Donough	377.2	41.8	39.6	2.3	--	335.4
Mercer	359.1	39.6	39.6	--	--	319.5
Morgan, Scott	524.5	53.9	53.9	--	--	470.6
Ogle	485.7	38.2	38.2	--	--	447.5
Peoria	396.5	65.7	51.4	14.2	--	330.9
Pike	531.4	115.0	115.0	--	--	416.4
Rock Island	273.4	41.6	38.2	3.4	--	231.8
Sangamon	555.7	40.0	40.0	--	--	515.7
Schuyler	279.9	76.3	76.3	--	--	203.6
Vermillion	575.4	42.2	42.2	--	--	533.2
Winnebago	328.9	34.8	30.1	4.7	--	294.1
Woodford	338.0	42.4	38.3	4.0	--	295.7
Total	23,265.7	1,840.8	1,674.9	165.9	--	21,424.9
All counties	35,580.0	4,331.3	4,087.0	244.2	--	31,248.7

All table cells without observations in the inventory sample are indicated by --. Cells with observations smaller than the precision reported in the table are shown as zero. Columns and rows may not add to their totals due to rounding.

[1] From U.S. Bureau of the Census, 1990.

[2] Includes 187.9 thousand acres of water according to FIA standards of area classification, but defined by the Bureau of the Census as land.

FIA standards require at least 30,000 acres of forest land for a county to be reported individually. Counties with less than 30,000 acres of forest land were combined into county groupings. When more than 2 counties were combined, the group name consists of the first two letters of each county in the group.

[3] BoDeKaMc = Boone, De Kalb, Kane, Mc Henry Counties.

[4] ChChDeFoLiMaMcMoPi = Champaign, Christian, Dewitt, Ford, Livingston, Macon, Mc Lean, Moultrie, Piatt Counties.

[5] CoDoEd = Coles, Douglas, Edgar Counties.

[6] CoDuLaWi = Cook, Du Page, Lake, Will Counties.

[7] GrKeLa = Grundy, Kendall, La Salle Counties.

Table 2. -- Area of timberland by Forest Survey Unit, county/county group, and ownership class, Illinois, 1998

(In thousand acres)

Forest Survey Unit and county/county group	All ownerships	Ownership class						
		National forest	Other federal	State	County and municipal	Forest industry	Corporate	Individual
Southern Unit								
Alexander	70.7	26.1	--	2.8	--	--	11.6	30.2
Franklin	55.4	--	1.5	--	1.5	--	--	52.4
Gallatin	41.5	11.3	--	--	--	--	6.3	23.9
Hamilton	37.0	--	--	--	1.5	--	1.1	34.4
Hardin	64.5	27.5	--	--	--	--	2.3	34.6
Jackson	137.7	47.3	--	7.1	--	--	10.6	72.8
Johnson	80.3	15.3	--	3.2	--	--	--	61.8
Massac	29.3	2.7	--	--	--	--	2.5	24.2
Perry	46.4	--	--	--	--	--	18.8	27.6
Pope	150.9	83.7	--	--	--	--	8.7	58.4
Pulaski	41.8	--	7.1	2.8	--	--	--	32.0
Randolph	84.4	--	--	10.7	--	--	6.7	67.0
Saline	57.7	10.5	--	5.1	--	--	17.0	25.2
Union	90.0	24.9	2.6	7.4	--	--	--	55.1
White	43.3	--	--	--	--	--	2.9	40.5
Williamson	87.8	--	21.7	--	--	--	9.4	56.8
Total	1,118.8	249.3	32.8	39.0	3.0	--	98.0	696.8
Claypan Unit								
Bond	40.9	--	--	--	--	--	1.6	39.4
Calhoun	68.2	--	5.9	1.2	--	--	--	61.1
Clark	60.0	--	--	--	2.7	--	2.9	54.4
Clay	44.4	--	--	--	--	--	1.7	42.7
Clinton, Washington	78.2	--	--	--	--	--	--	78.2
Crawford	53.1	--	--	--	--	--	0.8	52.4
Cumberland, Jasper	70.3	--	--	--	--	3.5	--	66.8
Edwards, Wabash	35.5	--	--	--	--	--	--	35.5
Effingham	60.4	--	--	--	--	--	1.5	58.8
Fayette	77.9	--	--	--	--	--	--	77.9
Greene	44.4	--	--	--	--	--	3.2	41.2
Jefferson	70.6	--	2.6	0.7	--	--	8.0	59.3
Jersey	40.0	--	--	--	--	--	--	40.0
Lawrence	29.2	--	--	--	2.3	--	--	26.9
Macoupin	75.5	--	--	--	--	--	4.4	71.1
Madison	60.0	--	--	3.3	--	--	2.6	54.1
Marion	83.2	--	--	--	--	--	0.7	82.5
Monroe	57.3	--	--	--	--	--	--	57.3
Montgomery	46.6	--	--	--	2.0	--	2.0	42.6
Richland	40.8	--	--	--	--	--	4.5	36.3
St. Clair	53.0	--	--	5.9	3.0	--	4.4	39.7
Shelby	40.9	--	4.7	--	--	--	0.3	35.8
Wayne	62.9	--	--	3.3	--	--	--	59.6
Total	1,293.3	--	13.2	14.3	9.9	3.5	38.6	1,213.7

(Table 2 continued on next page)

(Table 2 continued)

Forest Survey Unit and county/county group	All ownerships	Ownership class							
		National forest	Other federal	State	County and municipal	Indian	Forest industry	Corporate	Individual
Prairie Unit									
Adams	97.6	--	--	--	--	--	--	7.6	90.0
BoDeKaMc	41.6	--	--	--	5.7	--	--	5.8	30.1
Brown	52.6	--	--	--	--	--	4.0	--	48.6
Bureau	39.2	--	--	4.0	--	--	--	7.0	28.3
Carroll, Stephenson	55.7	--	--	5.0	--	--	--	--	50.7
Cass	33.9	--	--	3.6	--	--	--	--	30.3
ChChDeFoLiMaMcMoPi	66.2	--	--	--	2.5	--	--	12.2	51.5
CoDoEd	51.7	--	--	--	--	--	--	3.9	47.8
CoDuLaWi	35.4	--	0.4	--	4.2	--	3.6	11.7	15.5
Fulton	100.3	--	--	3.6	--	--	--	12.8	83.8
GrKeLa	49.1	--	--	2.2	--	--	--	9.8	37.2
Hancock	53.9	--	--	--	--	--	--	--	53.9
Henderson	35.7	--	--	--	--	--	--	4.0	31.8
Henry, Stark	31.8	--	--	--	--	--	--	2.7	29.1
Iroquois, Kankakee	36.8	--	--	--	--	--	--	2.2	34.6
Jo Daviess	56.5	--	--	--	--	--	--	--	56.5
Knox, Warren	57.0	--	--	--	--	--	--	--	57.0
Lee, Whiteside	43.6	--	--	--	--	--	--	11.0	32.7
Logan, Tazewell	38.5	--	--	--	--	--	--	3.2	35.3
Marshall, Putnam	47.8	--	--	--	0.7	--	--	0.5	46.6
Mason, Menard	47.0	--	--	9.8	--	--	--	5.4	31.7
Mc Donough	39.6	--	--	--	--	--	--	3.0	36.5
Mercer	39.6	--	2.7	--	2.7	--	--	4.2	30.0
Morgan, Scott	53.9	--	--	--	--	--	--	--	53.9
Ogle	38.2	--	--	--	--	--	--	--	38.2
Peoria	51.4	--	--	--	--	--	--	5.0	46.5
Pike	115.0	--	4.7	--	--	--	--	8.8	101.4
Rock Island	38.2	--	9.9	--	4.9	--	--	2.1	21.3
Sangamon	40.0	--	--	--	4.7	--	--	1.0	34.2
Schuyler	76.3	--	--	--	--	--	--	4.2	72.1
Vermillion	42.2	--	--	--	7.5	--	--	--	34.6
Winnebago	30.1	--	--	--	--	--	--	--	30.1
Woodford	38.3	--	--	--	--	--	--	--	38.3
Total	1,674.9	--	17.6	28.2	33.0	--	7.6	128.2	1,460.1
All counties	4,087.0	249.3	63.7	81.6	45.9	--	11.1	264.8	3,370.6

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FIA standards require at least 30,000 acres of forest land for a county to be reported individually. Counties with less than 30,000 acres of forest land were combined into county groupings. When more than 2 counties were combined, the group name consists of the first two letters of each county in the group.

[1] BoDeKaMc = Boone, De Kalb, Kane, Mc Henry Counties.
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Table 3. -- Area of timberland by Forest Survey Unit, county/county group, and forest type group/local type, Illinois, 1998

(In thousand acres)

Forest Survey Unit and county/county group	All types	Forest type group/local type												
		White-red-jack pine	Loblolly-shortleaf pine	Oak-pine				Oak-hickory			Oak-gum-cypress	Elm-ash-cottonwood	Maple-beech-birch	Non-stocked
		White pine	Shortleaf pine	Total	Eastern redcedar	Eastern redcedar-hardwood	Oak-pine	Total	Chestnut-scarlet oak	White oak-red oak-hickory	Oak-gum-cypress	Elm-ash-soft maple	Maple-beech	Non-stocked
Southern Unit														
Alexander	70.7	--	--	--	--	--	--	33.9	4.6	29.3	5.0	13.1	18.7	--
Franklin	55.4	--	--	--	--	--	--	26.4	--	26.4	10.6	12.1	6.2	--
Gallatin	41.5	--	2.8	0.7	--	--	0.7	14.9	--	14.9	3.2	17.7	2.1	--
Hamilton	37.0	--	--	--	--	--	--	24.8	--	24.8	2.6	9.5	--	--
Hardin	64.5	--	5.4	--	--	--	--	48.7	--	48.7	--	--	10.4	--
Jackson	137.7	2.2	1.5	--	--	--	--	74.4	--	74.4	4.3	33.3	21.5	0.5
Johnson	80.3	--	--	4.3	--	4.3	--	50.2	3.8	46.4	--	5.8	20.0	--
Massac	29.3	--	--	1.4	--	--	1.4	15.0	--	15.0	2.0	4.0	7.0	0.1
Perry	46.4	--	2.2	--	--	--	--	25.1	--	25.1	4.3	8.0	6.8	0.2
Pope	150.9	--	5.0	17.4	2.5	4.8	10.0	83.9	4.6	79.3	7.6	10.4	26.5	0.1
Pulaski	41.8	--	--	--	--	--	--	6.7	--	6.7	10.1	16.1	8.2	0.7
Randolph	84.4	--	0.7	5.5	--	5.5	--	49.0	2.7	46.3	--	21.0	8.2	--
Saline	57.7	--	2.8	--	--	--	--	34.1	7.0	27.1	2.9	9.3	8.6	--
Union	90.0	--	--	1.1	1.1	--	--	51.6	7.9	43.7	0.8	5.8	29.1	1.7
White	43.3	--	--	--	--	--	--	15.1	--	15.1	3.9	21.0	2.9	0.4
Williamson	87.8	--	6.5	--	--	--	--	32.1	2.9	29.2	3.3	35.5	8.3	2.2
Total	1,118.8	2.2	27.0	30.3	3.6	14.6	12.1	586.1	33.6	552.5	60.5	222.5	184.4	5.8
Claypan Unit														
Bond	40.9	2.1	--	--	--	--	--	15.7	2.5	13.2	1.4	12.0	9.7	--
Calhoun	68.2	--	--	--	--	--	--	52.0	8.8	43.2	--	10.6	4.5	1.2
Clark	60.0	--	--	--	--	--	--	40.2	4.3	35.9	2.1	3.3	14.2	0.1
Clay	44.4	--	--	--	--	--	--	24.9	2.9	22.0	1.9	11.7	5.9	--
Clinton, Washington	78.2	--	--	--	--	--	--	29.1	5.0	24.0	8.1	31.3	9.7	--
Crawford	53.1	--	--	--	--	--	--	27.5	3.2	24.3	--	12.7	13.0	--
Cumberland, Jasper	70.3	--	--	--	--	--	--	43.2	0.9	42.2	--	11.9	11.1	4.1
Edwards, Wabash	35.5	--	--	--	--	--	--	14.3	--	14.3	0.4	18.7	2.1	--
Effingham	60.4	--	--	2.5	--	2.5	--	39.0	--	39.0	2.2	5.6	10.6	0.4
Fayette	77.9	2.9	--	--	--	--	--	54.6	--	54.6	--	18.2	2.2	--
Greene	44.4	--	--	--	--	--	--	27.4	10.3	17.1	--	10.2	6.5	0.3
Jefferson	70.6	0.7	--	--	--	--	--	42.4	7.9	34.5	2.1	22.3	2.6	0.4
Jersey	40.0	--	--	--	--	--	--	26.9	1.7	25.2	--	1.8	11.3	--
Lawrence	29.2	--	--	--	--	--	--	5.2	--	5.2	0.9	11.2	11.0	0.9
Macoupin	75.5	--	--	--	--	--	--	55.1	8.4	46.6	--	13.1	7.3	--
Madison	60.0	0.5	--	--	--	--	--	21.5	--	21.5	3.1	22.4	12.5	--
Marion	83.2	--	--	2.1	--	--	2.1	41.1	8.3	32.8	--	18.9	20.3	0.8
Monroe	57.3	--	--	0.1	0.1	--	--	50.3	8.4	41.9	--	3.7	3.3	--
Montgomery	46.6	--	--	--	--	--	--	27.8	--	27.8	--	7.1	11.5	0.2
Richland	40.8	--	--	0.9	--	0.9	--	14.8	--	14.8	--	9.5	15.6	--
St. Clair	53.0	--	--	--	--	--	--	19.5	2.8	16.7	3.0	26.1	1.5	2.8
Shelby	40.9	--	--	--	--	--	--	21.7	2.4	19.3	--	8.7	9.9	0.6
Wayne	62.9	--	--	--	--	--	--	27.5	5.4	22.1	2.3	29.8	2.3	1.0
Total	1,293.3	6.2	--	5.6	0.1	3.4	2.1	721.7	83.3	638.4	27.6	320.9	198.7	12.7

(Table 3 continued on next page)

(Table 3 continued)

Forest Survey Unit and county/county group	All types	Forest type group/local type												
		White-red-jack pine	Loblolly-shortleaf pine	Oak-pine				Oak-hickory			Oak-gum-cypress	Elm-ash-cottonwood	Maple-beech-birch	Non-stocked
		White pine	Shortleaf pine	Total	Eastern redcedar	Eastern redcedar-hardwood	Oak-pine	Total	Chestnut-scarlet oak	White oak-red oak-hickory	Oak-gum-cypress	Elm-ash-soft maple	Maple-beech	Non-stocked
Prairie Unit														
Adams	97.6	--	--	--	--	--	--	73.3	6.7	66.6	--	10.1	13.7	0.5
BoDeKaMc	41.6	--	--	3.4	--	--	3.4	16.0	--	16.0	--	14.7	7.6	--
Brown	52.6	--	--	3.7	--	3.7	--	37.2	--	37.2	--	7.7	3.7	0.3
Bureau	39.2	--	--	--	--	--	--	7.4	--	7.4	--	11.7	20.1	--
Carroll, Stephenson	55.7	5.0	--	--	--	--	--	24.8	--	24.8	--	5.0	16.2	4.6
Cass	33.9	3.2	--	--	--	--	--	19.8	7.8	12.0	--	3.6	7.3	--
ChChDeFoLiMaMcMoPi	66.2	--	--	--	--	--	--	21.0	4.3	16.7	--	30.9	14.3	--
CoDoEd	51.7	--	--	--	--	--	--	25.0	10.4	14.6	--	8.6	17.9	0.3
CoDuLaWi	35.4	--	--	--	--	--	--	14.1	--	14.1	--	12.6	8.3	0.4
Fulton	100.3	--	--	--	--	--	--	53.0	7.3	45.7	--	14.8	31.2	1.2
GrKeLa	49.1	--	--	--	--	--	--	19.6	--	19.6	--	9.9	19.6	0.1
Hancock	53.9	--	--	--	--	--	--	34.8	--	34.8	--	5.5	13.6	--
Henderson	35.7	--	--	--	--	--	--	17.0	8.8	8.2	--	11.3	7.5	--
Henry, Stark	31.8	--	--	--	--	--	--	2.1	--	2.1	--	21.5	8.2	--
Iroquois, Kankakee	36.8	2.5	--	--	--	--	--	14.3	9.4	4.9	--	18.8	1.0	0.2
Jo Daviess	56.5	--	--	--	--	--	--	34.4	--	34.4	--	4.8	16.6	0.8
Knox, Warren	57.0	--	--	--	--	--	--	31.1	2.7	28.4	--	6.5	19.4	--
Lee, Whiteside	43.6	3.5	--	--	--	--	--	14.8	3.8	11.0	--	13.2	12.1	--
Logan, Tazewell	38.5	--	--	--	--	--	--	13.9	--	13.9	--	13.6	10.3	0.7
Marshall, Putnam	47.8	--	--	1.1	--	1.1	--	25.6	7.6	18.0	--	9.6	11.1	0.4
Mason, Menard	47.0	4.9	--	--	--	--	--	26.0	4.9	21.1	--	6.3	9.7	--
Mc Donough	39.6	--	--	--	--	--	--	28.5	4.1	24.4	3.0	1.0	7.1	--
Mercer	39.6	2.3	--	--	--	--	--	11.2	3.0	8.2	--	10.3	13.5	2.4
Morgan, Scott	53.9	--	--	--	--	--	--	22.6	--	22.6	--	6.7	23.9	0.8
Ogle	38.2	5.8	--	--	--	--	--	26.7	3.3	23.4	--	0.6	4.9	0.2
Peoria	51.4	--	--	--	--	--	--	29.3	2.0	27.3	--	6.2	16.0	--
Pike	115.0	--	--	--	--	--	--	66.4	16.4	50.0	2.1	35.5	10.6	0.4
Rock Island	38.2	--	--	--	--	--	--	11.3	--	11.3	--	17.9	8.8	0.1
Sangamon	40.0	--	--	--	--	--	--	26.7	2.6	24.1	--	11.7	1.5	0.0
Schuyler	76.3	--	--	3.1	--	3.1	--	37.3	--	37.3	--	6.2	27.3	2.3
Vermillion	42.2	--	--	--	--	--	--	23.7	--	23.7	--	10.1	8.3	--
Winnebago	30.1	0.7	--	--	--	--	--	8.5	--	8.5	--	9.0	11.8	--
Woodford	38.3	--	--	--	--	--	--	14.7	--	14.7	--	6.6	17.1	--
Total	1,674.9	27.8	--	11.3	--	7.9	3.4	832.4	105.0	727.3	5.1	362.6	420.2	15.6
All counties	4,087.0	36.1	27.0	47.1	3.7	25.9	17.6	2,140.1	221.9	1,918.2	93.2	906.0	803.3	34.1

All table cells without observations in the inventory sample are indicated by --. Cells with observations smaller than the precision reported in the table are shown as zero. Columns and rows may not add to their totals due to rounding.
FIA standards require at least 30,000 acres of forest land for a county to be reported individually. Counties with less than 30,000 acres of forest land were combined into county groupings. When more than 2 counties were combined, the group name consists of the first two letters of each county in the group.

[1] BoDeKaMc = Boone, De Kalb, Kane, Mc Henry Counties.
[2] ChChDeFoLiMaMcMoPi = Champaign, Christian, Dewitt, Ford, Livingston, Macon, Mc Lean, Moultrie, Piatt Counties.
[3] CoDoEd = Coles, Douglas, Edgar Counties.
[4] CoDuLaWi = Cook, Du Page, Lake, Will Counties.
[5] GrKeLa = Grundy, Kendall, La Salle Counties.

Table 4. -- Area of timberland by Forest Survey Unit, county/county group, and stand-size class, Illinois, 1998

(In thousand acres)

Forest Survey Unit and county/county group	All stands	Stand-size class			
		Sawtimber	Poletimber	Sapling-seedling	Non-stocked
Southern Unit					
Alexander	70.7	55.3	13.2	2.1	--
Franklin	55.4	34.0	21.4	--	--
Gallatin	41.5	32.4	8.4	0.7	--
Hamilton	37.0	11.5	19.2	6.2	--
Hardin	64.5	47.5	17.0	--	--
Jackson	137.7	99.0	34.7	3.4	0.5
Johnson	80.3	55.5	20.1	4.8	--
Massac	29.3	18.8	8.2	2.3	0.1
Perry	46.4	27.5	18.7	--	0.2
Pope	150.9	106.4	39.3	5.1	0.1
Pulaski	41.8	21.7	19.5	--	0.7
Randolph	84.4	62.0	15.8	6.6	--
Saline	57.7	45.1	9.8	2.8	--
Union	90.0	67.7	20.6	--	1.7
White	43.3	33.5	7.5	2.0	0.4
Williamson	87.8	54.8	27.6	3.3	2.2
Total	1,118.8	772.8	301.0	39.3	5.8
Claypan Unit					
Bond	40.9	28.0	13.0	--	--
Calhoun	68.2	50.7	16.4	--	1.2
Clark	60.0	40.3	15.2	4.4	0.1
Clay	44.4	36.6	5.2	2.5	--
Clinton, Washington	78.2	68.3	9.9	--	--
Crawford	53.1	27.9	24.4	0.8	--
Cumberland, Jasper	70.3	50.5	12.3	3.5	4.1
Edwards, Wabash	35.5	29.8	5.7	--	--
Effingham	60.4	41.4	10.2	8.4	0.4
Fayette	77.9	53.6	20.0	4.3	--
Greene	44.4	33.3	10.8	--	0.3
Jefferson	70.6	45.9	23.8	0.5	0.4
Jersey	40.0	35.1	4.9	--	--
Lawrence	29.2	21.3	6.9	--	0.9
Macoupin	75.5	48.7	22.0	4.8	--
Madison	60.0	53.0	7.1	--	--
Marion	83.2	56.8	15.6	10.1	0.8
Monroe	57.3	52.7	4.6	--	--
Montgomery	46.6	30.2	11.9	4.3	0.2
Richland	40.8	29.8	10.9	--	--
St. Clair	53.0	42.8	7.4	--	2.8
Shelby	40.9	35.4	4.9	--	0.6
Wayne	62.9	50.3	11.6	--	1.0
Total	1,293.3	962.4	274.4	43.8	12.7

(Table 4 continued on next page)

(Table 4 continued)

Forest Survey Unit and county/county group	All stands	Stand-size class			
		Sawtimber	Poletimber	Sapling-seedling	Non-stocked
Prairie Unit					
Adams	97.6	59.3	32.7	5.1	0.5
BoDeKaMc	41.6	33.5	8.2	--	--
Brown	52.6	37.1	15.2	--	0.3
Bureau	39.2	24.8	12.1	2.3	--
Carroll, Stephenson	55.7	31.5	19.6	--	4.6
Cass	33.9	30.7	3.2	--	--
ChChDeFoLiMaMcMoPi	66.2	53.0	13.2	--	--
CoDoEd	51.7	46.9	1.4	3.2	0.3
CoDuLaWi	35.4	30.6	4.4	--	0.4
Fulton	100.3	73.7	25.4	--	1.2
GrKeLa	49.1	37.0	11.9	0.2	0.1
Hancock	53.9	39.9	11.8	2.2	--
Henderson	35.7	19.5	15.3	0.9	--
Henry, Stark	31.8	19.9	10.6	1.3	--
Iroquois, Kankakee	36.8	25.0	11.5	--	0.2
Jo Daviess	56.5	52.5	3.3	--	0.8
Knox, Warren	57.0	35.8	16.9	4.3	--
Lee, Whiteside	43.6	31.0	12.6	--	--
Logan, Tazewell	38.5	31.2	6.7	--	0.7
Marshall, Putnam	47.8	38.3	8.7	0.5	0.4
Mason, Menard	47.0	38.8	8.2	--	--
Mc Donough	39.6	20.1	15.6	4.0	--
Mercer	39.6	20.7	16.6	--	2.4
Morgan, Scott	53.9	24.3	21.9	6.9	0.8
Ogle	38.2	37.5	0.6	--	0.2
Peoria	51.4	30.1	19.4	2.0	--
Pike	115.0	96.1	18.5	--	0.4
Rock Island	38.2	30.5	5.6	1.9	0.1
Sangamon	40.0	34.8	5.1	--	0.0
Schuyler	76.3	49.7	24.2	--	2.3
Vermillion	42.2	27.5	10.8	3.9	--
Winnebago	30.1	17.0	11.6	1.4	--
Woodford	38.3	31.3	7.0	--	--
Total	1,674.9	1,209.6	409.6	40.1	15.6
All counties	4,087.0	2,944.7	985.0	123.2	34.1

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FIA standards require at least 30,000 acres of forest land for a county to be reported individually. Counties with less than 30,000 acres of forest land were combined into county groupings. When more than 2 counties were combined, the group name consists of the first two letters of each county in the group.

[1] BoDeKaMc = Boone, De Kalb, Kane, Mc Henry Counties.
[2] ChChDeFoLiMaMcMoPi = Champaign, Christian, Dewitt, Ford, Livingston, Macon, Mc Lean, Moultrie, Piatt Counties.
[3] CoDoEd = Coles, Douglas, Edgar Counties.
[4] CoDuLaWi = Cook, Du Page, Lake, Will Counties.
[5] GrKeLa = Grundy, Kendall, La Salle Counties.

Table 5. -- Area of timberland by Forest Survey Unit, county/county group, and potential productivity class, Illinois, 1998

(In thousand acres)

Forest Survey Unit and county/county group	All classes	Potential productivity class (cubic feet of growth per acre per year)					
		225+	165-224	120-164	85-119	50-84	20-49
Southern Unit							
Alexander	70.7	2.8	5.0	15.2	17.0	10.6	19.9
Franklin	55.4	1.5	1.5	16.7	20.2	15.5	--
Gallatin	41.5	--	--	15.7	8.4	17.4	--
Hamilton	37.0	--	--	10.8	10.7	11.1	4.4
Hardin	64.5	--	--	14.7	25.7	16.8	7.3
Jackson	137.7	6.7	3.5	22.0	20.1	59.1	26.4
Johnson	80.3	--	3.0	16.9	25.6	26.9	7.8
Massac	29.3	--	--	11.7	10.3	2.7	4.6
Perry	46.4	--	5.7	3.7	16.6	17.1	3.3
Pope	150.9	2.1	2.1	31.1	27.1	50.1	38.4
Pulaski	41.8	2.3	4.1	11.2	15.5	8.7	--
Randolph	84.4	2.0	1.8	16.6	21.2	19.2	23.5
Saline	57.7	--	--	14.3	21.1	17.0	5.4
Union	90.0	--	2.1	13.6	24.5	28.7	21.1
White	43.3	--	--	11.7	11.5	10.3	9.9
Williamson	87.8	--	--	21.6	32.6	27.7	5.9
Total	1,118.8	17.4	29.0	247.5	308.2	338.9	177.9
Claypan Unit							
Bond	40.9	--	--	7.2	16.4	12.9	4.3
Calhoun	68.2	4.7	--	9.1	30.9	14.0	9.4
Clark	60.0	2.0	0.8	7.1	18.6	20.3	11.2
Clay	44.4	--	--	6.7	17.4	14.1	6.2
Clinton, Washington	78.2	--	2.7	15.3	29.9	23.1	7.2
Crawford	53.1	--	--	5.3	24.5	19.6	3.7
Cumberland, Jasper	70.3	--	--	7.7	19.8	29.0	13.8
Edwards, Wabash	35.5	--	--	17.1	10.9	6.8	0.6
Effingham	60.4	--	--	1.4	19.5	21.8	17.7
Fayette	77.9	--	--	9.2	17.7	33.1	18.0
Greene	44.4	--	--	4.8	11.1	20.6	7.9
Jefferson	70.6	--	--	10.1	21.1	22.5	16.9
Jersey	40.0	--	--	3.2	8.4	22.9	5.5
Lawrence	29.2	--	--	8.7	10.1	3.1	7.2
Macoupin	75.5	--	--	--	19.6	41.3	14.6
Madison	60.0	--	1.6	7.3	16.7	28.1	6.3
Marion	83.2	--	--	15.7	22.8	34.5	10.2
Monroe	57.3	--	--	--	25.9	11.8	19.7
Montgomery	46.6	--	--	3.1	20.6	16.0	6.9
Richland	40.8	--	--	8.1	21.3	7.2	4.2
St. Clair	53.0	--	--	8.3	17.8	16.9	10.0
Shelby	40.9	--	--	4.4	12.1	15.2	9.2
Wayne	62.9	--	1.0	14.3	23.2	17.1	7.3
Total	1,293.3	6.7	6.1	174.2	436.4	451.9	218.0

(Table 5 continued on next page)

(Table 5 continued)

Forest Survey Unit and county/county group	All classes	Potential productivity class (cubic feet of growth per acre per year)					
		225+	165-224	120-164	85-119	50-84	20-49
Prairie Unit							
Adams	97.6	2.8	--	4.8	39.5	23.9	26.5
BoDeKaMc	41.6	--	--	6.7	13.9	12.1	8.9
Brown	52.6	--	--	13.9	12.5	14.8	11.4
Bureau	39.2	--	--	13.0	19.4	4.5	2.3
Carroll, Stephenson	55.7	--	--	13.9	21.2	9.7	11.0
Cass	33.9	2.9	4.5	2.9	1.9	12.4	9.3
ChChDeFoLiMaMcMoPi	66.2	--	--	13.0	17.0	27.6	8.6
CoDoEd	51.7	--	--	5.4	22.8	18.0	5.6
CoDuLaWi	35.4	--	--	9.4	12.4	5.1	8.5
Fulton	100.3	2.4	--	18.9	25.0	25.8	28.2
GrKeLa	49.1	1.4	--	5.9	15.8	20.3	5.7
Hancock	53.9	--	--	0.8	19.3	13.6	20.2
Henderson	35.7	--	--	10.5	10.1	8.8	6.3
Henry, Stark	31.8	--	--	8.3	14.9	2.7	5.9
Iroquois, Kankakee	36.8	--	--	3.5	18.6	11.5	3.2
Jo Daviess	56.5	--	--	15.4	9.2	23.4	8.5
Knox, Warren	57.0	4.0	--	4.1	15.6	24.0	9.2
Lee, Whiteside	43.6	--	--	3.5	16.9	18.6	4.7
Logan, Tazewell	38.5	3.1	--	9.9	11.8	5.4	8.3
Marshall, Putnam	47.8	--	--	4.0	19.3	20.2	4.4
Mason, Menard	47.0	4.9	--	6.1	6.2	12.9	17.0
Mc Donough	39.6	--	--	16.1	9.6	12.1	1.8
Mercer	39.6	--	--	2.7	17.8	14.8	4.4
Morgan, Scott	53.9	--	--	1.8	27.9	21.9	2.3
Ogle	38.2	--	--	4.7	10.2	17.2	6.1
Peoria	51.4	--	0.2	4.1	21.9	21.2	4.1
Pike	115.0	--	--	16.0	32.3	44.3	22.4
Rock Island	38.2	--	--	8.1	17.8	7.6	4.6
Sangamon	40.0	--	--	3.6	16.6	17.2	2.6
Schuyler	76.3	4.3	--	0.8	21.6	31.2	18.5
Vermillion	42.2	--	--	2.0	12.7	18.2	9.2
Winnebago	30.1	2.0	--	5.9	12.0	7.6	2.6
Woodford	38.3	--	--	1.1	14.5	20.9	1.9
Total	1,674.9	27.6	4.7	240.8	558.1	549.5	294.1
All counties	4,087.0	51.8	39.7	662.5	1,302.7	1,340.3	689.9

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FIA standards require at least 30,000 acres of forest land for a county to be reported individually. Counties with less than 30,000 acres of forest land were combined into county groupings. When more than 2 counties were combined, the group name consists of the first two letters of each county in the group.

[1] BoDeKaMc = Boone, De Kalb, Kane, Mc Henry Counties.
[2] ChChDeFoLiMaMcMoPi = Champaign, Christian, Dewitt, Ford, Livingston, Macon, Mc Lean, Moultrie, Piatt Counties.
[3] CoDoEd = Coles, Douglas, Edgar Counties.
[4] CoDuLaWi = Cook, Du Page, Lake, Will Counties.
[5] GrKeLa = Grundy, Kendall, La Salle Counties.

Table 6. -- Area of timberland by Forest Survey Unit, county/county group, and stocking class of growing-stock trees[1], Illinois, 1998

(In thousand acres)

Forest Survey Unit and county/county group	All classes	Stocking class of growing-stock trees				
		Nonstocked[2]	Poorly stocked	Moderately stocked	Fully stocked	Over-stocked
Southern Unit						
Alexander	70.7	0.7	20.3	22.8	21.9	5.0
Franklin	55.4	- -	9.1	21.6	18.5	6.2
Gallatin	41.5	- -	2.1	13.8	13.5	12.2
Hamilton	37.0	0.2	9.5	4.6	20.3	2.5
Hardin	64.5	- -	- -	13.4	44.4	6.7
Jackson	137.7	1.3	19.3	37.3	67.1	12.6
Johnson	80.3	0.5	7.0	24.8	36.3	11.8
Massac	29.3	0.8	3.9	9.5	13.7	1.4
Perry	46.4	0.2	5.4	2.2	33.5	5.2
Pope	150.9	0.1	11.1	37.7	80.9	21.0
Pulaski	41.8	0.7	14.0	10.4	10.9	5.9
Randolph	84.4	2.7	16.6	32.2	27.6	5.2
Saline	57.7	- -	8.4	15.8	28.7	4.9
Union	90.0	1.9	13.0	15.9	40.2	19.1
White	43.3	0.4	7.2	20.3	15.4	- -
Williamson	87.8	2.2	12.7	33.4	37.3	2.2
Total	1,118.8	11.6	159.6	315.7	510.2	121.8
Claypan Unit						
Bond	40.9	- -	10.4	22.1	7.7	0.6
Calhoun	68.2	1.5	8.5	26.8	30.8	0.6
Clark	60.0	0.7	4.4	14.5	33.7	6.5
Clay	44.4	1.4	4.2	15.9	19.3	3.5
Clinton, Washington	78.2	0.4	5.1	22.8	37.0	12.9
Crawford	53.1	0.8	6.8	20.2	22.1	3.2
Cumberland, Jasper	70.3	4.1	5.8	20.3	33.0	7.2
Edwards, Wabash	35.5	- -	3.2	18.9	12.3	1.0
Effingham	60.4	0.4	7.2	18.0	29.6	5.2
Fayette	77.9	0.6	5.4	24.9	29.9	17.2
Greene	44.4	2.4	7.2	19.8	11.9	3.1
Jefferson	70.6	0.4	11.6	14.3	38.7	5.7
Jersey	40.0	- -	3.5	20.9	15.6	- -
Lawrence	29.2	0.9	7.9	3.5	13.0	3.9
Macoupin	75.5	- -	7.9	38.3	27.1	2.2
Madison	60.0	4.4	3.9	11.2	33.9	6.6
Marion	83.2	4.4	15.6	27.9	31.9	3.5
Monroe	57.3	1.2	- -	31.9	16.9	7.3
Montgomery	46.6	0.7	5.4	12.1	26.3	2.1
Richland	40.8	3.0	1.2	11.0	25.5	- -
St. Clair	53.0	4.5	8.1	19.4	15.7	5.3
Shelby	40.9	4.6	1.3	10.5	23.7	0.8
Wayne	62.9	3.6	8.3	11.1	39.2	0.7
Total	1,293.3	40.0	143.0	436.3	574.8	99.2

(Table 6 continued on next page)

(Table 6 continued)

Forest Survey Unit and county/county group	All classes	Stocking class of growing-stock trees				
		Nonstocked [2]	Poorly stocked	Moderately stocked	Fully stocked	Over-stocked
Prairie Unit						
Adams	97.6	8.2	3.5	35.1	50.8	--
BoDeKaMc	41.6	2.2	8.4	18.7	8.1	4.1
Brown	52.6	4.3	6.6	14.8	26.2	0.7
Bureau	39.2	5.3	9.4	8.5	14.0	2.0
Carroll, Stephenson	55.7	9.7	0.7	27.1	18.3	--
Cass	33.9	3.9	0.8	11.3	15.0	2.9
ChChDeFoLiMaMcMoPi	66.2	10.1	23.4	12.4	16.6	3.7
CoDoEd	51.7	6.6	9.9	6.0	16.5	12.7
CoDuLaWi	35.4	2.2	8.9	8.1	15.9	0.3
Fulton	100.3	5.1	22.3	36.6	26.6	9.6
GrKeLa	49.1	0.3	12.2	13.7	23.0	--
Hancock	53.9	1.3	8.0	20.4	21.3	2.9
Henderson	35.7	--	8.5	12.5	13.5	1.2
Henry, Stark	31.8	5.3	8.7	9.5	8.3	--
Iroquois, Kankakee	36.8	0.2	12.9	11.7	12.0	--
Jo Daviess	56.5	0.8	6.7	17.6	30.0	1.6
Knox, Warren	57.0	5.2	9.2	22.3	17.7	2.6
Lee, Whiteside	43.6	7.2	15.3	8.6	12.5	--
Logan, Tazewell	38.5	0.7	7.0	10.7	19.6	0.6
Marshall, Putnam	47.8	4.3	18.4	5.3	15.5	4.4
Mason, Menard	47.0	1.3	--	33.6	9.6	2.5
Mc Donough	39.6	--	15.9	8.1	14.6	1.0
Mercer	39.6	3.9	8.8	12.6	14.3	--
Morgan, Scott	53.9	5.6	20.4	9.3	14.3	4.3
Ogle	38.2	4.7	0.8	14.8	14.5	3.4
Peoria	51.4	2.0	9.7	29.2	8.4	2.1
Pike	115.0	4.1	18.4	28.9	50.2	13.5
Rock Island	38.2	2.5	1.4	14.4	13.6	6.3
Sangamon	40.0	1.5	5.2	14.6	18.6	--
Schuyler	76.3	3.9	13.0	33.1	19.8	6.5
Vermillion	42.2	4.5	3.1	6.1	20.6	7.9
Winnebago	30.1	0.3	8.0	6.2	14.1	1.4
Woodford	38.3	0.6	10.6	12.4	14.7	--
Total	1,674.9	117.8	315.9	534.2	608.6	98.4
All counties	4,087.0	169.4	618.5	1,286.3	1,693.6	319.3

All table cells without observations in the inventory sample are indicated by --. Cells with observations smaller than the precision reported in the table are shown as zero. Columns and rows may not add to their totals due to rounding.

[1] This table is based on the stocking percent of growing-stock trees, rather than that of "live" trees. For this table, to use the definition of stocking found in the Appendix, replace the term "live trees" with "growing-stock trees."

[2] Area of nonstocked in this table and in table 8 differs from that in other tables in this report because this table includes land stocked only with growing-stock trees, rather than with "live" trees.

FIA standards require at least 30,000 acres of forest land for a county to be reported individually. Counties with less than 30,000 acres of forest land were combined into county groupings. When more than 2 counties were combined, the group name consists of the first two letters of each county in the group.

[3] BoDeKaMc = Boone, De Kalb, Kane, Mc Henry Counties.

[4] ChChDeFoLiMaMcMoPi = Champaign, Christian, Dewitt, Ford, Livingston, Macon, Mc Lean, Moultrie, Piatt Counties.

[5] CoDoEd = Coles, Douglas, Edgar Counties.

[6] CoDuLaWi = Cook, Du Page, Lake, Will Counties.

[7] GrKeLa = Grundy, Kendall, La Salle Counties.

Table 7. -- Area of timberland by forest type group/local type and ownership class, Illinois, 1998

(In thousand acres)

Forest type group by local type	Ownership class									
			Public					Private		
	All ownerships	Total public	National forest	Other federal	State	County and municipal	Total private	Forest industry	Corporate	Individual
White-red-jack pine										
White pine	36.1	7.1	2.2	--	4.9	--	29.0	--	2.3	26.8
Total	36.1	7.1	2.2	--	4.9	--	29.0	--	2.3	26.8
Loblolly-shortleaf pine										
Shortleaf pine	27.0	15.9	12.6	3.3	--	--	11.1	--	5.0	6.1
Total	27.0	15.9	12.6	3.3	--	--	11.1	--	5.0	6.1
Oak-pine										
Eastern redcedar	3.7	2.5	2.5	--	--	--	1.2	--	--	1.2
Eastern redcedar-hardwood	25.9	3.8	3.8	--	--	--	22.1	--	--	22.1
Oak-pine	17.6	7.5	7.5	--	--	--	10.1	--	0.8	9.2
Total	47.1	13.8	13.8	--	--	--	33.4	--	0.8	32.5
Oak-hickory										
Chestnut-scarlet oak	221.9	11.7	--	--	11.7	--	210.2	--	13.3	196.9
White oak-red oak-hickory	1,918.2	227.3	170.2	17.0	26.3	13.7	1,690.9	7.6	98.3	1,585.0
Total	2,140.1	239.0	170.2	17.0	38.0	13.7	1,901.1	7.6	111.6	1,781.9
Oak-gum-cypress										
Oak-gum-cypress	93.2	8.5	3.1	2.0	3.4	--	84.7	--	5.1	79.5
Total	93.2	8.5	3.1	2.0	3.4	--	84.7	--	5.1	79.5
Elm-ash-cottonwood										
Elm-ash-soft maple	906.0	95.3	7.5	36.6	27.3	23.9	810.8	--	94.0	716.8
Total	906.0	95.3	7.5	36.6	27.3	23.9	810.8	--	94.0	716.8
Maple-beech-birch										
Maple-beech	803.3	59.3	39.9	4.4	6.8	8.3	744.0	3.5	45.4	695.1
Total	803.3	59.3	39.9	4.4	6.8	8.3	744.0	3.5	45.4	695.1
Nonstocked	34.1	1.5	--	0.4	1.2	--	32.5	--	0.6	31.9
All types	4,087.0	440.5	249.3	63.7	81.6	45.9	3,646.5	11.1	264.8	3,370.6

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Table 8. -- Area of timberland by ownership class and stocking class of growing-stock trees[1], Illinois, 1998

(In thousand acres)

Ownership class	All classes	Stocking class of growing-stock trees				
		Nonstocked[2]	Poorly stocked	Moderately stocked	Fully stocked	Over-stocked
Public						
National forest	249.3	--	10.6	41.4	159.5	37.9
Other federal	63.7	3.9	7.7	15.4	32.4	4.2
State	81.6	1.2	12.6	21.3	30.0	16.4
County and municipal	45.9	--	7.1	6.0	28.3	4.4
Total	440.5	5.1	38.0	84.1	250.2	63.0
Private						
Forest industry	11.1	--	5.2	2.4	3.5	--
Corporate	264.8	14.9	66.3	74.9	94.0	14.7
Individual	3,370.6	175.4	761.9	921.5	1,298.6	213.1
Total	3,646.5	190.3	833.4	998.8	1,396.1	227.8
All ownerships	4,087.0	195.4	871.5	1,082.9	1,646.4	290.8

All table cells without observations in the inventory sample are indicated by --. Cells with observations smaller than the precision reported in the table are shown as zero. Columns and rows may not add to their totals due to rounding.

[1] This table is based on the stocking percent of growing-stock trees, rather than that of "live" trees. For this table, to use the definition of stocking found in the Appendix, replace the term "live trees" with "growing-stock trees."

[2] Area of nonstocked in this table and in table 6 differs from that in other tables in this report because this table includes land stocked only with growing-stock trees, rather than with "live" trees.

Table 9. -- Area of timberland by forest type group/local type and stand-size class, Illinois, 1998

(In thousand acres)

Forest type group and local type	All stands	Stand-size class			
		Sawtimber	Poletimber	Sapling-seedling	Non-stocked
White-red-jack pine					
White pine	36.1	18.9	17.3	--	--
Total	36.1	18.9	17.3	--	--
Loblolly-shortleaf pine					
Shortleaf pine	27.0	24.7	2.3	--	--
Total	27.0	24.7	2.3	--	--
Oak-pine					
Eastern redcedar	3.7	1.2	--	2.5	--
Eastern redcedar-hardwood	25.9	9.6	11.7	4.6	--
Oak-pine	17.6	12.2	5.4	--	--
Total	47.1	22.9	17.1	7.1	--
Oak-hickory					
Chestnut-scarlet oak	221.9	187.6	32.3	2.0	--
White oak-red oak-hickory	1,918.2	1,468.8	400.0	49.4	--
Total	2,140.1	1,656.4	432.3	51.4	--
Oak-gum-cypress					
Oak-gum-cypress	93.2	68.9	24.3	--	--
Total	93.2	68.9	24.3	--	--
Elm-ash-cottonwood					
Elm-ash-soft maple	906.0	644.9	240.8	20.4	--
Total	906.0	644.9	240.8	20.4	--
Maple-beech-birch					
Maple-beech	803.3	508.1	250.9	44.3	--
Total	803.3	508.1	250.9	44.3	--
Nonstocked	34.1	--	--	--	34.1
All types	4,087.0	2,944.7	985.0	123.2	34.1

All table cells without observations in the inventory sample are indicated by --. Cells with observations smaller than the precision reported in the table are shown as zero. Columns and rows may not add to their totals due to rounding.

Table 10. -- Number of all live trees on timberland by species group and diameter class, Illinois, 1998

(In thousand trees)

Species group	All classes	Diameter class (inches at breast height)											
		1.0-2.9	3.0-4.9	5.0-6.9	7.0-8.9	9.0-10.9	11.0-12.9	13.0-14.9	15.0-16.9	17.0-18.9	19.0-20.9	21.0-28.9	29.0+
Softwoods													
Jack pine	589	--	--	135	383	72	--	--	--	--	--	--	--
Red pine	8,421	4,942	241	903	1,601	596	138	--	--	--	--	--	--
White pine	7,740	1,110	1,577	874	1,614	1,486	557	268	199	27	19	8	--
Loblolly pine	148	--	--	29	15	29	29	15	--	--	30	--	--
Shortleaf pine	9,977	607	2,700	1,442	2,068	1,691	740	456	197	28	19	28	--
White spruce	239	--	--	176	16	16	16	16	--	--	--	--	--
Baldcypress	109	--	--	27	--	--	--	--	17	15	7	34	9
Eastern redcedar	21,562	11,759	5,421	2,036	1,232	746	200	105	33	--	31	--	--
Other softwoods	1,577	--	241	653	569	96	18	--	--	--	--	--	--
Total softwoods	50,362	18,418	10,181	6,277	7,497	4,732	1,698	859	446	69	105	70	9
Hardwoods													
Select white oak	78,285	26,676	9,825	5,663	5,933	5,704	5,378	4,755	4,399	3,203	2,150	3,604	996
Other white oak	14,388	1,359	4,265	1,153	1,702	1,653	1,410	1,049	717	265	320	435	61
Select red oak	23,579	8,051	2,269	1,626	1,975	1,066	1,970	1,767	1,203	1,004	961	1,510	177
Other red oak	158,238	84,693	28,363	8,541	7,400	6,960	5,887	4,916	3,755	2,719	1,886	2,552	565
Select hickory	108,727	53,377	22,829	9,623	7,337	6,505	3,554	2,383	1,456	641	463	525	35
Other hickory	96,939	50,017	21,669	8,098	6,358	4,181	2,963	1,708	882	655	241	168	--
Basswood	11,804	3,789	2,851	1,620	766	928	633	392	324	133	237	95	35
Beech	3,154	2,321	263	53	52	38	51	148	52	19	67	80	12
Hard maple	136,173	96,875	20,526	6,657	4,501	2,732	1,619	1,134	864	600	197	439	30
Soft maple	85,979	40,070	15,856	6,820	6,418	4,778	3,228	2,878	2,006	1,337	921	1,222	445
Elm	446,061	309,828	88,439	21,816	13,292	6,747	2,946	1,376	966	384	158	103	4
Black ash	4,452	2,041	2,041	133	117	32	--	71	17	--	--	--	--
White & green ash	126,651	70,895	26,485	8,954	6,899	4,999	3,203	2,140	1,116	907	511	504	39
Sycamore	13,899	6,386	1,916	1,182	815	899	543	432	449	244	273	558	204
Cottonwood	10,108	276	4,119	637	735	795	732	743	411	327	364	629	340
Willow	26,466	15,729	3,126	2,201	2,236	1,145	841	402	266	209	78	220	13
Hackberry	120,485	79,923	24,292	6,144	4,027	2,436	1,558	756	426	338	287	245	53
Balsam poplar	49	--	--	15	9	16	9	--	--	--	--	--	--
Bigtooth aspen	106	--	--	37	--	16	--	22	--	30	--	--	--
Quaking aspen	178	--	--	--	75	59	44	--	--	--	--	--	--
Paper birch	16	--	--	16	--	--	--	--	--	--	--	--	--
River birch	8,576	3,617	1,434	1,024	1,081	458	333	342	133	76	39	34	4
Sweetgum	16,975	4,479	5,725	2,596	1,546	702	653	540	368	198	105	61	2
Tupelo	13,663	10,087	1,378	787	549	337	236	195	33	13	7	18	23
Black cherry	123,656	74,333	31,172	7,465	4,878	2,380	1,697	938	297	297	121	74	5
Black walnut	44,204	22,182	6,470	3,426	3,855	2,867	2,017	1,669	886	397	208	197	30
Butternut	739	--	130	264	48	165	68	31	24	9	--	--	--
Yellow-poplar	12,150	6,342	2,318	794	687	473	450	300	163	336	133	120	34
Other hardwoods	380,798	243,194	87,715	22,403	11,671	7,101	3,638	2,322	1,206	603	516	382	48
Total hardwoods	2,066,498	1,216,539	415,474	129,748	94,961	66,173	45,662	33,407	22,416	14,944	10,241	13,775	3,156
Noncommercial species	281,909	196,081	68,097	9,927	4,251	1,825	699	488	236	124	115	67	--
All species	2,398,770	1,431,038	493,752	145,952	106,709	72,730	48,059	34,755	23,099	15,138	10,462	13,912	3,165

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Table 11. -- Number of growing-stock trees on timberland by species group and diameter class, Illinois, 1998

(In thousand trees)

Species group	All classes	Diameter class (inches at breast height)											
		1.0-2.9	3.0-4.9	5.0-6.9	7.0-8.9	9.0-10.9	11.0-12.9	13.0-14.9	15.0-16.9	17.0-18.9	19.0-20.9	21.0-28.9	29.0+
Softwoods													
Jack pine	535	--	--	114	383	38	--	--	--	--	--	--	--
Red pine	3,375	--	241	873	1,528	596	138	--	--	--	--	--	--
White pine	7,661	1,110	1,577	854	1,594	1,471	535	268	199	27	19	8	--
Loblolly pine	148	--	--	29	15	29	29	15	--	--	30	--	--
Shortleaf pine	8,499	607	1,317	1,409	2,028	1,691	740	435	197	28	19	28	--
White spruce	219	--	--	156	16	16	16	16	--	--	--	--	--
Baldcypress	109	--	--	27	--	--	--	--	17	15	7	34	9
Eastern redcedar	19,972	11,759	4,635	1,682	1,080	545	150	105	17	--	--	--	--
Other softwoods	1,346	--	241	638	385	83	--	--	--	--	--	--	--
Total softwoods	41,864	13,476	8,012	5,782	7,026	4,468	1,609	838	430	69	75	70	9
Hardwoods													
Select white oak	71,743	25,521	7,258	5,448	5,483	5,340	4,913	4,482	4,200	3,134	2,051	3,370	543
Other white oak	12,705	1,137	3,457	987	1,604	1,594	1,315	1,024	702	227	260	354	44
Select red oak	22,808	8,051	2,134	1,591	1,872	1,066	1,902	1,703	1,142	1,004	918	1,267	160
Other red oak	146,922	81,728	23,314	7,814	6,810	6,425	5,571	4,632	3,517	2,563	1,769	2,300	480
Select hickory	104,586	51,876	21,923	9,134	7,038	6,142	3,209	2,325	1,350	618	455	480	35
Other hickory	94,093	49,606	20,649	7,574	5,954	3,992	2,796	1,667	820	625	241	168	--
Basswood	10,477	3,789	2,160	1,456	573	841	600	362	284	93	194	91	35
Beech	2,997	2,321	263	27	52	38	32	86	52	19	37	67	3
Hard maple	126,035	93,039	16,377	5,886	4,100	2,425	1,530	952	752	527	127	316	3
Soft maple	78,069	38,448	14,497	5,640	5,206	4,085	2,739	2,442	1,690	1,145	781	981	415
Elm	412,358	301,171	73,180	17,283	10,659	5,448	2,363	1,047	742	251	109	100	4
Black ash	3,382	2,041	1,020	133	85	32	--	71	--	--	--	--	--
White & green ash	114,146	67,841	21,098	7,429	6,130	4,510	2,710	1,851	947	777	435	398	19
Sycamore	13,408	6,386	1,916	1,036	771	764	488	432	433	202	265	534	181
Cottonwood	9,451	276	3,851	558	640	752	700	696	411	298	364	615	292
Willow	23,870	15,729	2,106	1,612	1,835	977	721	336	212	137	71	127	8
Hackberry	114,094	78,012	22,374	5,068	3,444	2,081	1,276	671	383	238	281	230	35
Balsam poplar	34	--	--	--	9	16	9	--	--	--	--	--	--
Bigtooth aspen	106	--	--	37	--	16	--	22	--	30	--	--	--
Quaking aspen	178	--	--	--	75	59	44	--	--	--	--	--	--
Paper birch	16	--	--	16	--	--	--	--	--	--	--	--	--
River birch	8,259	3,617	1,434	888	1,038	407	319	302	118	76	39	16	4
Sweetgum	15,182	4,479	4,114	2,466	1,530	685	653	528	368	190	105	61	2
Tupelo	13,474	10,087	1,378	706	525	322	184	180	33	13	7	18	22
Black cherry	102,601	67,139	22,785	4,989	3,457	1,544	1,294	796	194	244	101	56	3
Black walnut	40,855	21,569	5,870	3,044	3,211	2,605	1,685	1,512	736	319	148	127	30
Butternut	663	--	130	216	48	165	68	13	24	--	--	--	--
Yellow-poplar	11,972	6,342	2,318	780	585	455	419	300	163	323	133	120	34
Other hardwoods	314,513	225,454	57,470	14,549	7,271	4,601	2,211	1,474	614	467	277	112	13
Total hardwoods	1,868,999	1,165,659	333,076	106,367	80,004	57,387	39,752	29,905	19,886	13,519	9,169	11,907	2,367
All species	1,910,863	1,179,135	341,088	112,149	87,030	61,855	41,361	30,743	20,315	13,588	9,244	11,978	2,377

All table cells without observations in the inventory sample are indicated by --. Cells with observations smaller than the precision reported in the table are shown as zero. Columns and rows may not add to their totals due to rounding.

Table 12. -- Net volume of growing stock on timberland by species group and diameter class, Illinois, 1998

(In thousand cubic feet)

Species group	All classes	Diameter class (inches at breast height)									
		5.0-6.9	7.0-8.9	9.0-10.9	11.0-12.9	13.0-14.9	15.0-16.9	17.0-18.9	19.0-20.9	21.0-28.9	29.0+
Softwoods											
Jack pine	2,444	339	1,848	257	--	--	--	--	--	--	--
Red pine	17,133	2,363	7,434	5,286	2,049	--	--	--	--	--	--
White pine	50,375	2,029	8,422	14,039	8,617	6,818	7,347	1,242	1,232	631	--
Loblolly pine	3,164	57	102	280	446	393	--	--	1,886	--	--
Shortleaf pine	65,326	3,679	10,731	16,608	12,064	10,486	6,489	1,333	1,224	2,712	--
White spruce	1,042	294	83	119	263	283	--	--	--	--	--
Baldcypress	8,284	49	--	--	--	--	504	705	392	3,899	2,735
Eastern redcedar	17,158	3,424	4,927	4,331	1,918	2,173	386	--	--	--	--
Other softwoods	3,930	1,337	1,935	659	--	--	--	--	--	--	--
Total softwoods	168,856	13,572	35,481	41,578	25,357	20,153	14,726	3,280	4,733	7,241	2,735
Hardwoods											
Select white oak	985,433	13,435	28,848	49,768	73,713	98,244	128,507	128,029	109,352	273,022	82,514
Other white oak	137,749	2,316	7,552	13,933	18,188	21,065	20,335	8,886	13,014	25,611	6,850
Select red oak	374,756	4,161	11,330	10,681	30,092	39,591	37,571	44,405	52,555	113,735	30,637
Other red oak	908,252	18,688	35,420	60,136	83,923	105,294	111,044	109,827	98,279	195,849	89,791
Select hickory	380,382	22,145	37,760	60,464	51,052	56,302	47,157	29,465	28,007	42,670	5,360
Other hickory	267,097	17,982	31,190	39,299	46,604	42,283	29,333	30,077	15,390	14,940	--
Basswood	71,413	3,872	3,341	8,045	9,108	8,498	9,610	4,009	11,451	7,557	5,922
Beech	14,866	74	236	369	555	2,150	1,822	871	2,307	5,977	505
Hard maple	206,723	16,052	24,157	24,776	26,115	24,114	27,191	25,103	7,822	30,842	551
Soft maple	519,662	15,135	29,479	41,150	44,368	59,878	57,020	52,762	46,378	92,167	81,326
Elm	236,227	36,139	50,479	46,503	32,956	22,781	22,804	10,389	6,020	7,484	673
Black ash	2,772	418	333	386	--	1,634	--	--	--	--	--
White & green ash	307,848	17,998	32,244	43,894	43,017	43,820	32,854	34,456	24,999	31,937	2,629
Sycamore	188,939	3,123	5,346	8,985	8,925	12,300	16,477	11,113	18,433	59,998	44,239
Cottonwood	229,182	1,552	3,753	8,139	12,444	17,135	14,416	14,721	23,767	62,380	70,873
Willow	76,542	4,331	10,235	10,459	12,036	8,457	7,387	6,748	4,423	11,249	1,218
Hackberry	142,502	11,254	16,482	18,201	18,348	14,144	12,138	10,148	15,608	20,101	6,078
Balsam poplar	364	--	68	142	154	--	--	--	--	--	--
Bigtooth aspen	2,274	114	--	206	--	675	--	1,279	--	--	--
Quaking aspen	1,747	--	421	580	746	--	--	--	--	--	--
Paper birch	43	43	--	--	--	--	--	--	--	--	--
River birch	33,717	1,930	4,849	3,284	4,802	6,991	3,905	3,177	2,336	1,671	772
Sweetgum	74,732	5,265	7,535	6,291	10,078	12,273	12,559	8,439	6,192	5,783	315
Tupelo	21,783	1,609	2,478	2,952	2,613	4,120	1,109	563	399	1,694	4,245
Black cherry	106,613	10,595	16,529	13,823	18,766	17,898	6,169	10,555	5,982	5,940	355
Black walnut	158,388	7,050	15,826	23,199	23,951	32,173	22,409	12,859	7,843	8,869	4,209
Butternut	4,300	476	269	1,533	904	297	820	--	--	--	--
Yellow-poplar	81,708	2,037	3,720	4,656	8,113	8,832	6,739	18,054	9,986	11,544	8,026
Other hardwoods	237,985	30,299	34,098	40,273	32,654	32,554	19,966	20,753	16,074	9,129	2,185
Total hardwoods	5,773,998	248,093	413,978	542,128	614,226	693,502	649,342	596,689	526,617	1,040,149	449,273
All species	5,942,855	261,665	449,459	583,706	639,583	713,656	664,068	599,969	531,351	1,047,390	452,008

All table cells without observations in the inventory sample are indicated by --. Cells with observations smaller than the precision reported in the table are shown as zero. Columns and rows may not add to their totals due to rounding.

Table 13. -- Net volume of growing stock in the saw-log portion of sawtimber trees on timberland by species group and diameter class, Illinois, 1998

(In thousand cubic feet)

Species group	All classes	Diameter class (inches at breast height)							
		9.0-10.9	11.0-12.9	13.0-14.9	15.0-16.9	17.0-18.9	19.0-20.9	21.0-28.9	29.0+
Softwoods									
Jack pine	187	187	--	--	--	--	--	--	--
Red pine	6,003	4,205	1,798	--	--	--	--	--	--
White pine	35,359	11,377	7,650	6,337	6,988	1,194	1,197	616	--
Loblolly pine	2,823	228	395	367	--	--	1,833	--	--
Shortleaf pine	45,382	13,625	10,759	9,720	6,142	1,285	1,190	2,662	--
White spruce	578	89	233	255	--	--	--	--	--
Baldcypress	8,095	--	--	--	476	679	380	3,840	2,719
Eastern redcedar	7,620	3,533	1,703	2,022	361	--	--	--	--
Other softwoods	509	509	--	--	--	--	--	--	--
Total softwoods	106,555	33,753	22,539	18,700	13,967	3,158	4,601	7,118	2,719
Hardwoods									
Select white oak	804,491	--	54,458	80,701	112,059	115,751	101,321	259,815	80,385
Other white oak	98,214	--	12,914	16,954	17,522	7,977	11,974	24,197	6,675
Select red oak	318,623	--	23,038	33,267	33,338	40,698	49,161	109,071	30,050
Other red oak	713,338	--	62,261	87,322	97,424	99,921	91,445	187,002	87,963
Select hickory	221,546	--	36,431	45,742	41,044	26,670	25,949	40,508	5,202
Other hickory	150,408	--	34,121	34,828	25,663	27,287	14,316	14,193	--
Basswood	50,137	--	6,929	7,178	8,578	3,675	10,752	7,228	5,797
Beech	13,115	--	437	1,836	1,635	804	2,173	5,737	494
Hard maple	123,641	--	19,525	20,013	23,961	22,838	7,277	29,490	537
Soft maple	390,793	--	32,665	49,494	49,861	47,941	43,104	88,088	79,640
Elm	84,041	--	23,206	18,458	19,733	9,350	5,568	7,071	656
Black ash	1,338	--	--	1,338	--	--	--	--	--
White & green ash	183,843	--	31,687	36,069	28,890	31,196	23,177	30,272	2,551
Sycamore	160,540	--	6,805	10,428	14,607	10,242	17,288	57,705	43,465
Cottonwood	203,130	--	9,829	14,534	12,881	13,611	22,407	60,084	69,784
Willow	43,108	--	8,272	6,708	6,281	6,035	4,052	10,585	1,176
Hackberry	83,700	--	13,082	11,372	10,555	9,168	14,443	19,150	5,931
Balsam poplar	117	--	117	--	--	--	--	--	--
Bigtooth aspen	1,737	--	--	583	--	1,154	--	--	--
Quaking aspen	561	--	561	--	--	--	--	--	--
River birch	19,676	--	3,352	5,615	3,365	2,831	2,161	1,599	752
Sweetgum	46,965	--	7,109	9,876	10,883	7,576	5,714	5,504	305
Tupelo	12,668	--	1,780	3,300	961	504	367	1,611	4,146
Black cherry	53,421	--	12,866	14,271	5,286	9,447	5,521	5,686	344
Black walnut	93,037	--	16,827	25,775	19,296	11,510	7,215	8,333	4,081
Butternut	1,545	--	595	239	711	--	--	--	--
Yellow-poplar	65,113	--	6,377	7,588	6,065	16,716	9,435	11,048	7,886
Other hardwoods	109,799	--	22,592	25,853	17,168	18,632	14,813	8,619	2,123
Total hardwoods	4,048,645	--	447,834	569,342	567,766	541,533	489,633	992,595	439,942
All species	4,155,200	33,753	470,373	588,043	581,733	544,691	494,234	999,713	442,661

All table cells without observations in the inventory sample are indicated by --. Cells with observations smaller than the precision reported in the table are shown as zero. Columns and rows may not add to their totals due to rounding.

Table 14. -- Net volume of sawtimber (International 1/4 inch rule) on timberland by species group and diameter class, Illinois, 1998

(In thousand board feet) [1]

Species group	All classes	Diameter class (inches at breast height)							
		9.0-10.9	11.0-12.9	13.0-14.9	15.0-16.9	17.0-18.9	19.0-20.9	21.0-28.9	29.0+
Softwoods									
Jack pine	1,188	1,188	--	--	--	--	--	--	--
Red pine	34,629	24,756	9,873	--	--	--	--	--	--
White pine	186,012	63,834	39,911	32,191	34,928	6,101	5,979	3,069	--
Loblolly pine	15,493	1,354	2,222	1,970	--	--	9,948	--	--
Shortleaf pine	259,222	81,536	60,875	54,035	34,134	7,146	6,608	14,889	--
White spruce	3,085	548	1,218	1,319	--	--	--	--	--
Baldcypress	41,845	--	--	--	2,398	3,316	1,905	20,224	14,002
Eastern redcedar	45,882	23,853	9,868	10,364	1,797	--	--	--	--
Other softwoods	3,006	3,006	--	--	--	--	--	--	--
Total softwoods	590,362	200,075	123,966	99,879	73,257	16,562	24,440	38,182	14,002
Hardwoods									
Select white oak	4,044,760	--	362,822	474,659	610,061	595,579	498,733	1,186,628	316,278
Other white oak	556,571	--	91,036	105,645	100,996	43,759	63,642	121,093	30,401
Select red oak	1,681,730	--	148,630	197,084	187,454	220,964	259,313	541,874	126,411
Other red oak	3,771,630	--	414,076	520,799	548,178	538,307	476,572	916,406	357,292
Select hickory	1,258,662	--	246,172	272,257	228,470	142,797	135,818	207,125	26,023
Other hickory	889,697	--	232,012	210,922	146,252	149,881	76,579	74,053	--
Basswood	275,981	--	46,120	42,772	48,031	19,887	56,123	36,289	26,759
Beech	69,288	--	2,805	10,822	9,104	4,322	11,286	28,627	2,322
Hard maple	670,310	--	125,119	115,996	130,390	120,103	36,909	139,519	2,275
Soft maple	1,843,918	--	192,770	262,380	250,606	231,814	202,696	393,209	310,443
Elm	473,980	--	156,087	106,336	104,127	46,375	26,484	32,020	2,552
Black ash	7,555	--	--	7,555	--	--	--	--	--
White & green ash	998,687	--	194,916	203,049	154,865	163,747	119,298	151,219	11,592
Sycamore	791,243	--	40,963	57,782	77,503	53,252	88,521	284,459	188,762
Cottonwood	1,048,943	--	59,991	84,329	72,300	75,189	123,148	320,004	313,980
Willow	231,357	--	55,187	38,569	33,760	31,003	19,798	48,508	4,531
Hackberry	423,896	--	87,188	64,886	55,117	45,025	68,046	82,402	21,232
Balsam poplar	731	--	731	--	--	--	--	--	--
Bigtooth aspen	9,921	--	--	3,489	--	6,432	--	--	--
Quaking aspen	3,500	--	3,500	--	--	--	--	--	--
River birch	106,282	--	21,966	31,931	17,699	14,402	10,367	7,014	2,905
Sweetgum	250,447	--	45,997	55,930	56,887	38,121	27,565	24,687	1,260
Tupelo	62,885	--	12,009	18,863	5,033	2,556	1,772	7,247	15,405
Black cherry	296,706	--	85,926	81,988	28,133	47,804	26,589	24,829	1,436
Black walnut	534,581	--	116,344	156,071	108,121	61,638	36,696	39,615	16,096
Butternut	9,186	--	4,123	1,356	3,707	--	--	--	--
Yellow-poplar	370,244	--	40,761	45,479	35,588	95,308	53,433	60,937	38,738
Other hardwoods	602,180	--	149,542	148,965	90,735	93,442	71,520	39,551	8,424
Total hardwoods	21,284,873	--	2,936,795	3,319,913	3,103,117	2,841,709	2,490,909	4,767,314	1,825,117
All species	21,875,235	200,075	3,060,761	3,419,791	3,176,374	2,858,271	2,515,348	4,805,496	1,839,119

All table cells without observations in the inventory sample are indicated by --. Cells with observations smaller than the precision reported in the table are shown as zero. Columns and rows may not add to their totals due to rounding.

[1] International 1/4 inch rule.

Table 14A. -- Net volume of sawtimber (Doyle rule) on timberland by species group and diameter class, Illinois, 1998

(In thousand board feet) [1]

Species group	All classes	Diameter class (inches at breast height)							
		9.0-10.9	11.0-12.9	13.0-14.9	15.0-16.9	17.0-18.9	19.0-20.9	21.0-28.9	29.0+
Softwoods									
Jack pine	411	411	--	--	--	--	--	--	--
Red pine	13,272	8,553	4,719	--	--	--	--	--	--
White pine	97,016	22,055	19,077	19,289	24,128	4,688	5,126	2,653	--
Loblolly pine	11,238	468	1,062	1,180	--	--	8,528	--	--
Shortleaf pine	138,108	28,171	29,098	32,378	23,579	5,491	5,665	13,725	--
Baldcypress	40,256	--	--	--	1,657	2,548	1,633	18,925	15,493
Eastern redcedar	20,410	8,241	4,717	6,210	1,241	--	--	--	--
Other softwoods	2,600	1,228	582	790	--	--	--	--	--
Total softwoods	323,311	69,126	59,256	59,847	50,606	12,728	20,952	35,303	15,493
Hardwoods									
Select white oak	2,856,857	--	151,369	242,931	358,838	391,236	358,091	995,449	358,944
Other white oak	360,584	--	37,980	54,069	59,406	28,745	45,695	100,187	34,502
Select red oak	1,205,796	--	62,008	100,868	110,260	145,151	186,187	457,858	143,464
Other red oak	2,627,303	--	172,753	266,545	322,438	353,614	342,178	764,284	405,491
Select hickory	769,573	--	102,703	139,341	134,386	93,803	97,517	172,289	29,533
Other hickory	504,689	--	96,795	107,950	86,025	98,457	54,984	60,479	--
Basswood	182,584	--	19,241	21,891	28,252	13,064	40,297	29,471	30,369
Beech	49,029	--	1,170	5,539	5,355	2,839	8,103	23,387	2,636
Hard maple	414,483	--	52,200	59,367	76,695	78,896	26,500	118,244	2,582
Soft maple	1,345,376	--	80,423	134,286	147,406	152,279	145,536	333,124	352,322
Elm	258,866	--	65,120	54,423	61,247	30,464	19,015	25,701	2,896
Black ash	3,867	--	--	3,867	--	--	--	--	--
White & green ash	606,257	--	81,319	103,921	91,092	107,565	85,656	123,548	13,156
Sycamore	644,322	--	17,090	29,573	45,587	34,982	63,558	239,307	214,226
Cottonwood	876,691	--	25,028	43,160	42,527	49,392	88,421	271,827	356,336
Willow	142,131	--	23,024	19,740	19,858	20,366	14,215	39,786	5,142
Hackberry	273,679	--	36,375	33,209	32,420	29,577	48,857	69,146	24,096
Bigtooth aspen	6,011	--	--	1,786	--	4,225	--	--	--
Quaking aspen	1,460	--	1,460	--	--	--	--	--	--
River birch	62,410	--	9,164	16,342	10,410	9,461	7,443	6,293	3,296
Sweetgum	148,295	--	19,190	28,625	33,461	25,042	19,791	20,756	1,431
Tupelo	44,189	--	5,010	9,654	2,961	1,679	1,272	6,129	17,483
Black cherry	168,580	--	35,848	41,961	16,548	31,403	19,091	22,099	1,630
Black walnut	309,320	--	48,539	79,877	63,597	40,490	26,348	32,202	18,267
Butternut	4,595	--	1,720	694	2,181	--	--	--	--
Yellow-poplar	254,896	--	17,006	23,276	20,933	62,608	38,365	48,745	43,964
Other hardwoods	346,865	--	62,694	76,240	53,371	61,382	51,352	32,266	9,561
Total hardwoods	14,468,709	--	1,225,231	1,699,131	1,825,254	1,866,718	1,788,473	3,992,578	2,071,325
All species	14,792,020	69,126	1,284,487	1,758,979	1,875,859	1,879,447	1,809,425	4,027,881	2,086,818

All table cells without observations in the inventory sample are indicated by --. Cells with observations smaller than the precision reported in the table are shown as zero. Columns and rows may not add to their totals due to rounding.

[1] Doyle rule.

Table 15. -- Net volume of sawtimber (International 1/4 inch rule) on timberland by species group, grade, and Forest Survey Unit, Illinois, 1998

(In thousand board feet) [1]

Species group	Southern Unit					Claypan Unit					Prairie Unit				
		Log grade					Log grade					Log grade			
	Total [2]	1	2	3	4	Total [2]	1	2	3	4	Total [2]	1	2	3	4
Softwoods															
Red pine	--	--	--	--	--	--	--	--	--	--	53,719	--	--	53,719	--
White pine	44,717	--	5,930	38,787	--	14,685	--	--	12,101	2,584	79,187	--	19,736	54,277	5,175
Loblolly pine	28,317	12,773	--	15,544	--	--	--	--	--	--	--	--	--	--	--
Shortleaf pine	327,760	46,551	62,450	218,759	--	--	--	--	--	--	1,615	--	--	1,615	--
White spruce	--	--	--	--	--	--	--	--	--	--	5,638	--	--	5,638	--
Baldcypress	24,807	--	--	24,807	--	--	--	--	--	--	--	--	--	--	--
Eastern redcedar	39,811	--	--	39,811	--	13,760	--	3,156	10,603	--	15,773	--	--	15,773	--
Other softwoods	1,076	--	--	1,076	--	--	--	--	--	--	1,256	--	--	1,256	--
Total softwoods	466,489	59,324	68,380	338,785	--	28,445	--	3,156	22,704	2,584	157,188	--	19,736	132,278	5,175

Species group	Southern Unit					Claypan Unit					Prairie Unit				
		Log grade					Log grade					Log grade			
	Total [2]	1	2	3	Tie/timber	Total [2]	1	2	3	Tie/timber	Total [2]	1	2	3	Tie/timber
Hardwoods															
Select white oak	1,091,067	426,024	334,432	304,023	26,587	993,713	306,172	362,150	282,158	43,233	1,680,533	434,935	556,079	501,725	187,794
Other white oak	327,496	22,365	135,312	129,434	40,385	105,316	8,017	48,416	22,136	26,747	9,044	--	6,263	2,780	--
Select red oak	445,694	153,273	73,763	145,963	72,695	396,730	147,253	87,928	120,585	40,964	711,922	190,975	260,186	213,772	46,989
Other red oak	1,308,566	305,719	394,389	372,850	235,608	1,295,163	143,985	287,052	463,864	400,262	955,640	82,870	252,506	393,633	226,631
Select hickory	402,316	52,312	114,244	181,377	54,383	443,488	55,355	114,244	209,325	64,564	534,697	47,760	167,552	210,732	108,653
Other hickory	587,169	46,241	220,986	262,342	57,600	265,521	22,564	92,389	101,972	48,595	133,791	--	63,978	53,095	16,717
Basswood	13,505	13,505	--	--	--	26,575	--	12,758	9,857	3,959	282,680	96,238	67,850	107,745	10,846
Beech	76,539	--	27,140	20,270	29,129	--	--	--	--	--	--	--	--	--	--
Hard maple	257,684	10,225	52,003	127,514	67,942	160,444	28,481	36,896	69,143	25,925	304,384	23,457	94,897	125,536	60,493
Soft maple	248,752	36,864	49,570	98,546	63,771	659,554	45,445	195,006	346,064	73,039	1,032,593	130,170	261,037	422,061	219,325
Elm	110,458	13,112	20,500	49,275	27,571	158,324	11,931	38,424	76,314	31,654	281,726	34,927	72,554	110,045	64,201
Black ash	--	--	--	--	--	--	--	--	--	--	9,494	--	9,494	--	--
White & green ash	220,735	56,378	76,283	86,330	1,745	303,830	102,023	61,899	130,902	9,005	336,685	63,776	142,652	128,235	2,023
Sycamore	152,806	48,757	35,448	58,445	10,157	389,014	211,707	95,732	81,574	--	208,953	52,859	56,240	47,879	51,976
Cottonwood	359,909	138,304	44,649	134,318	42,638	190,045	52,185	65,326	57,125	15,409	740,975	278,894	111,889	304,015	46,176
Willow	42,565	--	--	13,437	29,128	30,736	--	2,656	28,080	--	127,454	--	22,424	62,745	42,284
Hackberry	24,548	--	5,958	18,590	--	252,949	77,899	89,630	66,472	18,948	205,513	37,470	84,049	75,120	8,873
Balsam poplar	1,336	--	--	1,336	--	--	--	--	--	--	--	--	--	--	--
Bigtooth aspen	--	--	--	--	--	--	--	--	--	--	14,963	--	6,377	8,586	--
River birch	35,950	5,736	12,724	10,202	7,289	52,481	5,693	30,410	12,820	3,559	22,568	--	10,890	11,678	--
Sweetgum	275,545	81,052	83,477	98,856	12,161	13,862	--	5,880	7,982	--	--	--	--	--	--
Tupelo	19,319	--	12,413	5,481	1,425	1,849	--	--	1,849	--	2,122	--	--	2,122	--
Black cherry	36,856	--	12,197	24,659	--	67,836	6,337	23,387	33,084	5,029	166,742	23,782	51,286	67,888	23,786
Black walnut	51,656	9,752	28,970	11,622	1,312	126,875	21,254	46,302	59,319	--	350,263	53,334	180,913	102,568	13,448
Butternut	--	--	--	--	--	1,950	--	--	1,950	--	--	--	--	--	--
Yellow-poplar	412,904	119,874	93,384	170,942	28,703	69,994	69,994	--	--	--	--	--	--	--	--
Other hardwoods	62,479	--	12,204	39,994	10,280	198,694	9,602	37,436	109,636	42,019	340,275	--	87,169	106,501	146,606
Total hardwoods	6,565,856	1,539,494	1,840,047	2,365,806	820,510	6,204,941	1,325,898	1,733,921	2,292,211	852,912	8,453,016	1,551,446	2,566,286	3,058,461	1,276,822
All species	7,032,345	1,598,818	1,908,426	2,704,591	820,510	6,233,386	1,325,898	1,737,077	2,314,915	855,496	8,610,204	1,551,446	2,586,022	3,190,739	1,281,997

All table cells without observations in the inventory sample are indicated by --. Cells with observations smaller than the precision reported in the table are shown as zero. Columns and rows may not add to their totals due to rounding.

[1] International 1/4 inch rule.

[2] Totals in table 15 might not equal totals in other tables due to rounding.

Table 15A. -- Net volume of sawtimber (Doyle rule) on timberland by species group, grade, and Forest Survey Unit, Illinois, 1998

(In thousand board feet) [1]

Species group	Southern Unit					Claypan Unit					Prairie Unit				
		Log grade					Log grade					Log grade			
	Total [2]	1	2	3	4	Total [2]	1	2	3	4	Total [2]	1	2	3	4
Softwoods															
Red pine	--	--	--	--	--	--	--	--	--	--	17,608	--	--	*****	--
White pine	18,658	--	2,095	16,563	--	6,089	--	--	5,043	1,046	28,512	--	7,268	18,967	2,276
Loblolly pine	17,391	8,485	--	8,906	--	--	--	--	--	--	--	--	--	--	--
Shortleaf pine	135,598	20,090	27,559	87,949	--	--	--	--	--	--	473	--	--	*****	--
White spruce	--	--	--	--	--	--	--	--	--	--	2,417	--	--	*****	--
Baldcypress	18,980	--	--	18,980	--	--	--	--	--	--	--	--	--	--	--
Eastern redcedar	15,293	--	--	15,293	--	5,344	--	1,601	3,743	--	6,091	--	--	6,091	--
Other softwoods	315	--	--	315	--	--	--	--	--	--	367	--	--	*****	--
Total softwoods	206,235	28,574	29,653	148,007	--	11,433	--	1,601	8,786	1,046	55,467	--	7,268	45,923	2,276

Species group	Southern Unit					Claypan Unit					Prairie Unit				
		Log grade					Log grade					Log grade			
	Total [2]	1	2	3	Tie/timber	Total [2]	1	2	3	Tie/timber	Total [2]	1	2	3	Tie/timber
Hardwoods															
Select white oak	596,244	252,962	183,757	148,399	11,125	556,368	189,267	192,606	155,462	19,033	1,052,408	291,064	345,918	305,116	110,310
Other white oak	167,040	13,386	76,958	59,124	17,571	56,793	5,314	26,586	8,099	16,795	4,790	--	3,808	982	--
Select red oak	245,782	99,672	40,505	74,535	31,069	252,585	110,176	54,498	66,784	21,127	432,552	123,151	154,692	130,672	24,037
Other red oak	786,744	196,904	233,276	230,599	125,964	719,727	101,268	166,141	222,588	229,729	534,991	53,963	158,897	206,348	115,783
Select hickory	190,306	28,490	58,436	78,966	24,413	235,744	35,149	68,755	105,914	25,926	292,655	28,462	102,498	109,200	52,495
Other hickory	281,702	29,447	112,093	117,010	23,152	125,221	12,570	47,795	42,422	22,434	63,715	--	31,824	25,673	6,218
Basswood	8,210	8,210	--	--	--	10,981	--	5,529	3,736	1,716	165,136	58,527	32,481	68,552	5,576
Beech	40,927	--	15,877	8,620	16,430	--	--	--	--	--	--	--	--	--	--
Hard maple	129,068	6,778	25,096	65,886	31,309	85,682	21,585	20,667	31,891	11,539	162,052	14,538	47,302	71,732	28,480
Soft maple	123,360	21,576	24,082	50,068	27,634	399,899	32,662	118,820	204,129	44,287	681,177	116,827	172,184	253,323	138,843
Elm	52,601	7,052	9,545	20,192	15,812	72,045	6,697	17,860	30,703	16,784	126,317	17,799	37,064	44,601	26,853
Black ash	--	--	--	--	--	--	--	--	--	--	4,114	--	4,114	--	--
White & green ash	104,250	32,383	35,528	35,723	616	158,134	61,006	33,366	59,166	4,596	180,949	42,760	71,175	66,299	715
Sycamore	80,877	30,341	16,189	29,601	4,745	273,746	146,162	79,863	47,721	--	153,233	35,030	39,209	29,050	49,944
Cottonwood	217,360	102,210	22,228	66,344	26,578	136,858	38,055	51,809	37,224	9,770	537,457	243,489	71,285	197,846	24,837
Willow	18,356	--	--	6,107	12,249	14,341	--	938	13,403	--	55,758	--	12,543	25,733	17,482
Hackberry	11,911	--	2,400	9,511	--	142,652	52,587	46,740	32,887	10,438	114,119	22,260	53,738	33,186	4,935
Balsam poplar	472	--	--	472	--	--	--	--	--	--	--	--	--	--	--
Bigtooth aspen	--	--	--	--	--	--	--	--	--	--	7,539	--	2,763	4,775	--
River birch	16,188	3,190	6,280	3,887	2,830	23,171	3,461	13,409	4,528	1,772	12,300	--	5,732	6,569	--
Sweetgum	132,565	46,784	39,649	41,331	4,801	7,020	--	2,581	4,439	--	--	--	--	--	--
Tupelo	7,924	--	5,203	2,217	504	653	--	--	653	--	750	--	--	750	--
Black cherry	16,304	--	6,155	10,149	--	29,243	3,852	9,787	13,827	1,776	84,238	14,908	31,401	26,855	11,074
Black walnut	25,470	6,873	13,848	4,285	463	55,214	10,585	22,810	21,819	--	165,898	29,521	85,688	44,884	5,804
Butternut	--	--	--	--	--	689	--	--	689	--	--	--	--	--	--
Yellow-poplar	246,450	83,201	61,391	90,139	11,719	40,645	40,645	--	--	--	--	--	--	--	--
Other hardwoods	25,107	--	6,198	15,278	3,631	88,944	4,782	18,736	47,819	17,608	156,613	--	47,520	43,329	65,765
Total hardwoods	3,525,217	969,462	994,694	1,168,445	392,616	3,486,354	875,824	999,297	1,155,903	455,330	4,988,761	1,092,298	1,511,836	1,695,476	689,150
All species	3,731,451	998,036	1,024,348	1,316,452	392,616	3,497,787	875,824	1,000,899	1,164,689	456,376	5,044,228	1,092,298	1,519,104	1,741,399	691,427

All table cells without observations in the inventory sample are indicated by --. Cells with observations smaller than the precision reported in the table are shown as zero. Columns and rows may not add to their totals due to rounding.

[1] Doyle rule.

[2] Totals in table 15A might not equal totals in other tables due to rounding.

Table 16. -- Net volume of growing stock and sawtimber (International 1/4 inch rule) on timberland by Forest Survey Unit, county/county group, and major species group, Illinois, 1998

Forest Survey Unit and county/county group	Growing stock					Sawtimber				
		Major species group					Major species group			
	All species	Pine	Other softwoods	Soft hardwoods	Hard hardwoods	All species	Pine	Other softwoods	Soft hardwoods	Hard hardwoods
	(In thousand cubic feet)					(In thousand board feet)[1]				
Southern Unit										
Alexander	103,997	--	2,658	45,821	55,518	398,380	--	13,573	174,161	210,646
Franklin	91,161	--	--	37,189	53,972	319,065	--	--	112,765	206,301
Gallatin	78,848	7,448	--	34,695	36,705	316,111	35,015	--	132,110	148,986
Hamilton	43,239	--	24	12,992	30,224	126,874	--	--	25,546	101,329
Hardin	102,167	10,754	697	17,604	73,112	365,360	39,574	611	54,483	270,691
Jackson	203,632	9,797	579	85,182	108,074	759,142	41,775	1,681	294,240	421,446
Johnson	127,992	2,522	7,899	38,180	79,390	467,937	11,096	34,137	136,168	286,536
Massac	40,464	1,286	1,301	15,914	21,963	148,318	3,939	6,521	51,007	86,851
Perry	84,706	3,191	--	35,373	46,143	302,764	8,205	--	120,304	174,255
Pope	245,529	22,278	3,251	48,289	171,711	907,935	72,787	6,822	161,884	666,441
Pulaski	45,606	--	--	36,419	9,187	143,694	--	--	112,516	31,178
Randolph	121,049	--	560	38,813	81,676	477,670	--	1,744	149,184	326,743
Saline	82,911	6,484	278	16,218	59,932	310,345	33,433	--	46,277	230,635
Union	166,908	--	708	39,944	126,255	659,482	--	1,797	151,996	505,688
White	57,659	--	--	38,939	18,719	211,873	--	--	143,032	68,841
Williamson	113,896	12,135	388	57,214	44,159	370,169	52,956	--	146,749	170,463
Total	1,709,763	75,895	18,343	598,788	1,016,738	6,285,119	298,782	66,885	2,012,422	3,907,030
Claypan Unit										
Bond	47,333	519	--	19,246	27,568	166,886	--	--	64,214	102,672
Calhoun	97,249	--	--	30,949	66,299	358,949	--	--	100,897	258,052
Clark	89,529	--	23	20,343	69,164	320,071	--	--	60,353	259,718
Clay	66,251	--	30	24,142	42,078	253,043	--	--	95,493	157,551
Clinton, Washington	144,268	--	105	74,160	70,003	537,602	--	597	245,511	291,493
Crawford	77,447	--	--	36,731	40,716	258,972	--	--	131,407	127,564
Cumberland, Jasper	89,247	--	--	26,337	62,910	325,595	--	--	88,198	237,397
Edwards, Wabash	47,488	--	--	28,474	19,014	172,646	--	--	95,889	76,758
Effingham	102,301	--	735	18,562	83,004	408,356	--	1,361	67,341	339,654
Fayette	136,293	3,602	--	46,072	86,619	495,271	4,545	--	162,214	328,512
Greene	58,347	--	--	20,332	38,015	193,367	--	--	58,566	134,801
Jefferson	119,948	1,972	--	46,793	71,182	423,144	8,035	--	141,472	273,638
Jersey	55,395	29	--	8,457	46,909	219,628	--	--	22,973	196,655
Lawrence	64,176	--	--	40,566	23,610	234,678	--	--	152,255	82,424
Macoupin	95,079	--	--	18,526	76,553	342,726	--	--	51,517	291,209
Madison	98,779	374	180	48,117	50,108	380,582	--	918	170,218	209,446
Marion	97,219	--	411	39,745	57,063	355,625	--	1,727	143,240	210,659
Monroe	85,516	--	1,388	17,047	67,081	340,780	--	5,905	59,278	275,597
Montgomery	62,053	--	--	18,532	43,520	217,118	--	--	60,079	157,039
Richland	46,513	--	--	15,395	31,119	159,042	--	--	48,576	110,466
St. Clair	81,160	--	--	44,315	36,845	308,157	--	--	152,791	155,366
Shelby	71,551	--	--	35,033	36,518	267,339	--	--	129,256	138,083
Wayne	98,711	--	--	43,435	55,276	364,775	--	--	142,545	222,230
Total	1,931,852	6,496	2,872	721,310	1,201,174	7,104,353	12,579	10,509	2,444,280	4,636,985

(Table 16 continued on next page)

(Table 16 continued)

Forest Survey Unit and county/county group	Growing stock					Sawtimber				
		Major species group					Major species group			
	All species	Pine	Other softwoods	Soft hardwoods	Hard hardwoods	All species	Pine	Other softwoods	Soft hardwoods	Hard hardwoods
	(In thousand cubic feet)					(In thousand board feet)[1]				
Prairie Unit										
Adams	142,551	--	209	60,202	82,140	501,759	--	--	218,135	283,624
BoDeKaMc	56,739	2,350	328	28,116	25,945	193,488	2,837	--	81,696	108,955
Brown	62,692	--	220	11,669	50,803	217,418	--	--	34,911	182,506
Bureau	47,436	--	--	15,919	31,517	171,271	--	--	44,105	127,166
Carroll, Stephenson	72,852	12,492	--	24,375	35,986	245,531	27,943	--	80,645	136,944
Cass	63,781	5,318	--	23,801	34,662	264,562	7,747	--	102,910	153,905
ChChDeFoLiMaMcMoPi	85,199	--	--	47,684	37,515	333,941	--	--	182,168	151,773
CoDoEd	69,168	--	--	21,635	47,533	264,161	--	--	78,723	185,438
CoDuLaWi	41,425	--	--	23,928	17,497	155,581	--	--	81,634	73,947
Fulton	126,817	--	68	41,850	84,900	485,846	--	--	144,570	341,275
GrKeLa	70,960	--	--	28,806	42,154	270,660	--	--	99,643	171,017
Hancock	53,200	--	95	11,382	41,722	178,155	--	--	32,428	145,728
Henderson	55,064	264	--	23,534	31,266	198,479	1,295	--	66,742	130,442
Henry, Stark	31,982	--	--	16,774	15,208	103,223	--	--	40,815	62,409
Iroquois, Kankakee	37,114	4,019	256	15,877	16,962	112,269	7,018	729	47,470	57,053
Jo Daviess	94,799	579	1,889	22,280	70,051	372,754	2,319	6,143	76,028	288,263
Knox, Warren	64,932	--	--	17,398	47,534	231,993	--	--	48,823	183,170
Lee, Whiteside	43,295	1,807	34	17,363	24,091	164,111	5,791	--	56,026	102,294
Logan, Tazewell	74,404	--	--	49,044	25,360	284,082	--	--	186,479	97,602
Marshall, Putnam	59,996	--	--	15,399	44,597	222,026	--	--	43,317	178,710
Mason, Menard	70,382	16,369	--	17,925	36,087	279,466	77,510	--	55,391	146,565
Mc Donough	36,586	--	155	6,987	29,444	116,101	--	885	14,455	100,760
Mercer	47,387	2,421	124	27,680	17,162	151,903	5,555	--	85,207	61,142
Morgan, Scott	61,255	--	--	19,099	42,157	221,750	--	--	49,637	172,113
Ogle	63,637	12,461	--	8,396	42,779	243,925	43,583	--	20,226	180,116
Peoria	69,364	251	62	23,047	46,005	233,831	--	--	59,245	174,586
Pike	192,470	--	350	81,283	110,837	739,038	--	--	303,613	435,425
Rock Island	83,327	--	--	59,637	23,690	322,867	--	--	225,063	97,804
Sangamon	66,524	1,192	--	30,710	34,622	266,058	5,278	--	115,348	145,432
Schuyler	100,466	--	30	26,371	74,066	367,233	--	--	73,076	294,157
Vermillion	55,913	--	125	12,258	43,530	195,716	--	--	43,549	152,167
Winnebago	45,680	278	773	26,251	18,378	161,999	1,313	3,085	89,221	68,380
Woodford	53,839	--	732	11,364	41,743	214,565	--	2,575	39,009	172,980
Total	2,301,239	59,801	5,450	868,046	1,367,943	8,485,762	188,189	13,418	2,920,309	5,363,847
All counties	5,942,855	142,192	26,665	2,188,144	3,585,855	21,875,235	499,550	90,812	7,377,012	13,907,861

All table cells without observations in the inventory sample are indicated by --. Cells with observations smaller than the precision reported in the table are shown as zero. Columns and rows may not add to their totals due to rounding.

[1] International 1/4 inch rule.

FIA standards require at least 30,000 acres of forest land for a county to be reported individually. Counties with less than 30,000 acres of forest land were combined into county groupings. When more than 2 counties were combined, the group name consists of the first two letters of each county in the group.

[2] BoDeKaMc = Boone, De Kalb, Kane, Mc Henry Counties.
[3] ChChDeFoLiMaMcMoPi = Champaign, Christian, Dewitt, Ford, Livingston, Macon, Mc Lean, Moultrie, Piatt Counties.
[4] CoDoEd = Coles, Douglas, Edgar Counties.
[5] CoDuLaWi = Cook, Du Page, Lake, Will Counties.
[6] GrKeLa = Grundy, Kendall, La Salle Counties.

Table 16A. -- Net volume of growing stock and sawtimber (Doyle rule) on timberland by Forest Survey Unit, county/county group, and major species group, Illinois, 1998

Forest Survey Unit and county/county group	Growing stock					Sawtimber				
		Major species group					Major species group			
	All species	Pine	Other softwoods	Soft hardwoods	Hard hardwoods	All species	Pine	Other softwoods	Soft hardwoods	Hard hardwoods
	(In thousand cubic feet)					(In thousand board feet)[1]				
Southern Unit										
Alexander	103,997	--	2,658	45,821	55,518	290,230	--	12,265	118,358	159,607
Franklin	91,161	--	--	37,189	53,972	202,898	--	--	66,995	135,903
Gallatin	78,848	7,448	--	34,695	36,705	197,134	18,359	--	83,974	94,801
Hamilton	43,239	--	24	12,992	30,224	80,294	--	--	14,297	65,996
Hardin	102,167	10,754	697	17,604	73,112	214,809	21,719	211	32,001	160,877
Jackson	203,632	9,797	579	85,182	108,074	463,333	21,550	733	183,698	257,353
Johnson	127,992	2,522	7,899	38,180	79,390	308,594	7,062	27,726	96,612	177,195
Massac	40,464	1,286	1,301	15,914	21,963	97,743	1,556	5,601	29,375	61,210
Perry	84,706	3,191	--	35,373	46,143	192,541	3,457	--	79,782	109,302
Pope	245,529	22,278	3,251	48,289	171,711	576,105	34,355	3,134	115,174	423,442
Pulaski	45,606	--	--	36,419	9,187	81,360	--	--	62,320	19,039
Randolph	121,049	--	560	38,813	81,676	327,242	--	746	99,364	227,132
Saline	82,911	6,484	278	16,218	59,932	196,208	19,201	--	26,777	150,230
Union	166,908	--	708	39,944	126,255	467,734	--	1,241	114,903	351,590
White	57,659	--	--	38,939	18,719	147,450	--	--	101,497	45,953
Williamson	113,896	12,135	388	57,214	44,159	232,015	34,006	--	87,248	110,761
Total	1,709,763	75,895	18,343	598,788	1,016,738	4,075,691	161,265	51,658	1,312,377	2,550,390
Claypan Unit										
Bond	47,333	519	--	19,246	27,568	108,650	--	--	43,131	65,519
Calhoun	97,249	--	--	30,949	66,299	225,565	--	--	66,493	159,072
Clark	89,529	--	23	20,343	69,164	215,558	--	--	46,525	169,033
Clay	66,251	--	30	24,142	42,078	166,518	--	--	65,148	101,370
Clinton, Washington	144,268	--	105	74,160	70,003	361,955	--	206	173,390	188,358
Crawford	77,447	--	--	36,731	40,716	167,160	--	--	83,951	83,210
Cumberland, Jasper	89,247	--	--	26,337	62,910	217,207	--	--	60,134	157,072
Edwards, Wabash	47,488	--	--	28,474	19,014	111,054	--	--	60,842	50,212
Effingham	102,301	--	735	18,562	83,004	293,380	--	470	50,421	242,489
Fayette	136,293	3,602	--	46,072	86,619	340,558	1,956	--	114,510	224,092
Greene	58,347	--	--	20,332	38,015	145,455	--	--	47,405	98,050
Jefferson	119,948	1,972	--	46,793	71,182	277,307	3,935	--	97,061	176,311
Jersey	55,395	29	--	8,457	46,909	152,103	--	--	14,040	138,063
Lawrence	64,176	--	--	40,566	23,610	171,101	--	--	105,420	65,681
Macoupin	95,079	--	--	18,526	76,553	224,394	--	--	33,490	190,904
Madison	98,779	374	180	48,117	50,108	259,266	--	439	112,130	146,697
Marion	97,219	--	411	39,745	57,063	227,208	--	1,035	96,424	129,749
Monroe	85,516	--	1,388	17,047	67,081	231,615	--	2,333	41,986	187,297
Montgomery	62,053	--	--	18,532	43,520	130,592	--	--	34,173	96,419
Richland	46,513	--	--	15,395	31,119	96,745	--	--	29,987	66,758
St. Clair	81,160	--	--	44,315	36,845	234,889	--	--	111,368	123,522
Shelby	71,551	--	--	35,033	36,518	200,017	--	--	116,590	83,427
Wayne	98,711	--	--	43,435	55,276	252,549	--	--	100,984	151,564
Total	1,931,852	6,496	2,872	721,310	1,201,174	4,810,846	5,891	4,483	1,705,603	3,094,869

(Table 16A continued on next page)

(Table 16A continued)

Forest Survey Unit and county/county group	Growing stock					Sawtimber				
		Major species group					Major species group			
	All species	Pine	Other softwoods	Soft hardwoods	Hard hardwoods	All species	Pine	Other softwoods	Soft hardwoods	Hard hardwoods
	(In thousand cubic feet)					(In thousand board feet)[1]				
Prairie Unit										
Adams	142,551	--	209	60,202	82,140	351,596	--	--	184,817	166,779
BoDeKaMc	56,739	2,350	328	28,116	25,945	140,218	1,148	--	49,535	89,535
Brown	62,692	--	220	11,669	50,803	130,381	--	--	22,804	107,578
Bureau	47,436	--	--	15,919	31,517	124,669	--	--	30,266	94,402
Carroll, Stephenson	72,852	12,492	--	24,375	35,986	169,818	10,359	--	52,744	106,715
Cass	63,781	5,318	--	23,801	34,662	201,661	3,087	--	88,450	110,124
ChChDeFoLiMaMcMoPi	85,199	--	--	47,684	37,515	249,895	--	--	135,052	114,844
CoDoEd	69,168	--	--	21,635	47,533	179,959	--	--	62,185	117,774
CoDuLaWi	41,425	--	--	23,928	17,497	108,905	--	--	55,282	53,623
Fulton	126,817	--	68	41,850	84,900	320,776	--	--	90,483	230,293
GrKeLa	70,960	--	--	28,806	42,154	209,414	--	--	76,159	133,255
Hancock	53,200	--	95	11,382	41,722	106,385	--	--	18,785	87,601
Henderson	55,064	264	--	23,534	31,266	142,165	619	--	44,239	97,307
Henry, Stark	31,982	--	--	16,774	15,208	75,294	--	--	26,242	49,053
Iroquois, Kankakee	37,114	4,019	256	15,877	16,962	69,468	2,713	252	33,436	33,068
Jo Daviess	94,799	579	1,889	22,280	70,051	241,613	1,109	2,961	44,584	192,959
Knox, Warren	64,932	--	--	17,398	47,534	166,202	--	--	31,216	134,986
Lee, Whiteside	43,295	1,807	34	17,363	24,091	109,337	2,660	--	30,732	75,945
Logan, Tazewell	74,404	--	--	49,044	25,360	203,147	--	--	136,354	66,793
Marshall, Putnam	59,996	--	--	15,399	44,597	140,398	--	--	25,174	115,224
Mason, Menard	70,382	16,369	--	17,925	36,087	182,586	49,723	--	34,006	98,858
Mc Donough	36,586	--	155	6,987	29,444	68,849	--	306	6,781	61,762
Mercer	47,387	2,421	124	27,680	17,162	93,369	2,099	--	48,911	42,359
Morgan, Scott	61,255	--	--	19,099	42,157	146,493	--	--	30,215	116,277
Ogle	63,637	12,461	--	8,396	42,779	161,865	16,614	--	10,687	134,563
Peoria	69,364	251	62	23,047	46,005	176,368	--	--	33,637	142,730
Pike	192,470	--	350	81,283	110,837	539,521	--	--	246,750	292,771
Rock Island	83,327	--	--	59,637	23,690	277,426	--	--	196,192	81,235
Sangamon	66,524	1,192	--	30,710	34,622	192,163	3,345	--	92,714	96,105
Schuyler	100,466	--	30	26,371	74,066	236,064	--	--	57,253	178,811
Vermillion	55,913	--	125	12,258	43,530	125,548	--	--	25,036	100,512
Winnebago	45,680	278	773	26,251	18,378	110,237	454	1,562	59,057	49,165
Woodford	53,839	--	732	11,364	41,743	153,692	--	1,005	23,018	129,669
Total	2,301,239	59,801	5,450	868,046	1,367,943	5,905,484	93,928	6,086	2,102,794	3,702,676
All counties	5,942,855	142,192	26,665	2,188,144	3,585,855	14,792,020	261,084	62,227	5,120,774	9,347,935

All table cells without observations in the inventory sample are indicated by --. Cells with observations smaller than the precision reported in the table are shown as zero. Columns and rows may not add to their totals due to rounding.

[1] Doyle rule.

FIA standards require at least 30,000 acres of forest land for a county to be reported individually. Counties with less than 30,000 acres of forest land were combined into county groupings. When more than 2 counties were combined, the group name consists of the first two letters of each county in the group.

2 BoDeKaMc = Boone, De Kalb, Kane, Mc Henry Counties.
3 ChChDeFoLiMaMcMoPi = Champaign, Christian, Dewitt, Ford, Livingston, Macon, Mc Lean, Moultrie, Piatt Counties.
4 CoDoEd = Coles, Douglas, Edgar Counties.
5 CoDuLaWi = Cook, Du Page, Lake, Will Counties.
6 GrKeLa = Grundy, Kendall, La Salle Counties.

Table 17. -- Net volume of all live trees and salvable dead trees on timberland by class of timber and major species group, Illinois, 1998

(In thousand cubic feet)

Class of timber	All species	Major species group: Pine	Other softwoods	Soft hardwoods	Hard hardwoods
Live trees					
Growing-stock trees					
Sawtimber					
Saw-log portion	4,155,200	90,262	16,292	1,433,271	2,615,374
Upper stem portion	534,402	11,834	1,415	184,325	336,828
Total	4,689,603	102,097	17,707	1,617,597	2,952,202
Poletimber	1,253,252	40,095	8,957	570,547	633,653
All growing-stock trees	5,942,855	142,192	26,665	2,188,144	3,585,855
Cull trees					
Short-log trees	216,082	306	1,521	93,775	120,480
Rough trees[1]					
Sawtimber size	216,602	956	1,606	79,343	134,696
Poletimber size	196,486	1,524	1,155	101,410	92,398
Total	413,087	2,480	2,761	180,753	227,094
Rotten trees[1]					
Sawtimber size	110,520	--	329	50,745	59,447
Poletimber size	17,760	--	73	11,228	6,459
Total	128,280	--	402	61,972	65,906
All live cull trees	757,449	2,786	4,684	336,500	413,480
All live trees	6,700,304	144,977	31,348	2,524,643	3,999,335
Salvable dead trees					
Sawtimber size	67,177	388	--	34,972	31,817
Poletimber size	39,101	765	532	26,235	11,569
All salvable dead trees	106,278	1,153	532	61,207	43,386
All classes	6,806,582	146,131	31,880	2,585,850	4,042,721

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[1] Includes noncommercial species.

Table 18. -- Net volume of all live trees and growing-stock trees on timberland by ownership class and major species group, Illinois, 1998

(In thousand cubic feet)

Ownership class	All live trees					Growing-stock trees				
		Major species group					Major species group			
	All species	Pine	Other softwoods	Soft hardwoods	Hard hardwoods	All species	Pine	Other softwoods	Soft hardwoods	Hard hardwoods
National forest	438,326	47,417	2,829	88,350	299,731	418,261	47,396	2,636	81,422	286,806
Other federal	131,754	6,656	128	98,280	26,690	124,350	6,656	--	91,517	26,177
State	194,562	16,369	6,990	72,666	98,537	180,804	16,369	6,990	62,673	94,772
County and municipal	87,786	--	--	51,673	36,113	81,296	--	--	46,303	34,993
Forest industry	18,237	--	--	4,400	13,836	17,502	--	--	3,666	13,836
Corporate	423,580	12,758	158	203,058	207,605	374,024	12,131	158	172,543	189,192
Individual	5,406,059	61,777	21,243	2,006,216	3,316,823	4,746,618	59,639	16,880	1,730,019	2,940,079
All ownerships	6,700,304	144,977	31,348	2,524,643	3,999,335	5,942,855	142,192	26,665	2,188,144	3,585,855

All table cells without observations in the inventory sample are indicated by --. Cells with observations smaller than the precision reported in the table are shown as zero. Columns and rows may not add to their totals due to rounding.

Table 19. -- Net volume of growing stock on timberland by forest type group/local type and major species group, Illinois, 1998

(In thousand cubic feet)

Forest type group/ local type	All species	Major species group			
		Pine	Other softwoods	Soft hardwoods	Hard hardwoods
Softwood type groups					
White-red-jack pine					
White pine	69,873	66,524	1,153	1,813	383
Total	69,873	66,524	1,153	1,813	383
Loblolly-shortleaf pine					
Shortleaf pine	66,078	52,554	111	11,787	1,626
Total	66,078	52,554	111	11,787	1,626
Oak-pine					
Eastern redcedar	2,362	--	864	122	1,375
Eastern redcedar-hardwood	10,370	--	3,636	2,220	4,515
Oak-pine	24,085	11,832	726	2,903	8,624
Total	36,817	11,832	5,226	5,246	14,513
All softwood types	172,769	130,909	6,490	18,846	16,523
Hardwood type groups					
Oak-hickory					
Chestnut-scarlet oak	337,754	324	1,070	27,681	308,679
White oak-red oak-hickory	2,900,577	8,458	8,514	425,345	2,458,260
Total	3,238,331	8,782	9,583	453,026	2,766,939
Oak-gum-cypress					
Oak-gum-cypress	170,847	--	2,809	69,566	98,472
Total	170,847	--	2,809	69,566	98,472
Elm-ash-cottonwood					
Elm-ash-soft maple	1,471,540	1,354	5,326	1,209,987	254,872
Total	1,471,540	1,354	5,326	1,209,987	254,872
Maple-beech-birch					
Maple-beech	889,369	1,147	2,456	436,718	449,048
Total	889,369	1,147	2,456	436,718	449,048
All hardwood types	5,770,086	11,282	20,174	2,169,298	3,569,331
Nonstocked	--	--	--	--	--
All forest types	5,942,855	142,192	26,665	2,188,144	3,585,855

All table cells without observations in the inventory sample are indicated by --. Cells with observations smaller than the precision reported in the table are shown as zero. Columns and rows may not add to their totals due to rounding.

Table 20. -- Average annual net growth of growing stock and sawtimber (International 1/4 inch rule) on timberland by Forest Survey Unit, county/county group, and major species group, Illinois, 1985-1997

Forest Survey Unit and county/county group	Growing stock					Sawtimber				
		Major species group					Major species group			
	All species	Pine	Other softwoods	Soft hardwoods	Hard hardwoods	All species	Pine	Other softwoods	Soft hardwoods	Hard hardwoods
	(In thousand cubic feet)					(In thousand board feet) [1]				
Southern Unit										
Alexander	3,487	--	--	2,124	1,363	14,295	--	--	9,006	5,290
Franklin	2,286	--	--	938	1,348	9,026	--	--	3,522	5,504
Gallatin	1,682	23	38	685	935	6,810	200	142	2,510	3,957
Hamilton	1,466	--	1	575	889	4,437	--	--	1,398	3,039
Hardin	2,842	295	82	639	1,827	12,524	1,484	124	2,781	8,135
Jackson	6,375	537	17	2,910	2,911	26,334	2,871	22	9,706	13,735
Johnson	4,183	338	106	1,238	2,502	15,697	1,421	323	4,327	9,626
Massac	1,354	33	35	771	505	4,259	207	184	2,264	1,605
Perry	2,153	63	--	1,056	1,034	8,973	377	--	4,073	4,523
Pope	8,361	904	153	2,151	5,152	34,004	3,666	277	7,734	22,327
Pulaski	2,949	--	-1	2,274	676	10,767	--	--	8,506	2,260
Randolph	3,455	--	1	1,366	2,088	13,649	--	1	4,546	9,102
Saline	1,862	132	8	620	1,102	7,908	832	--	1,533	5,543
Union	3,952	2	9	1,307	2,634	16,355	25	17	4,946	11,368
White	2,700	--	--	2,138	562	10,564	--	--	8,157	2,408
Williamson	4,644	491	14	2,671	1,468	15,342	1,284	--	7,800	6,259
Total	53,750	2,818	463	23,463	26,996	210,947	12,367	1,090	82,810	114,680
Claypan Unit										
Bond	1,298	155	--	570	574	3,429	--	--	1,303	2,126
Calhoun	2,671	--	--	854	1,818	11,683	--	--	3,484	8,198
Clark	2,973	--	--	1,103	1,870	11,619	--	--	3,909	7,710
Clay	1,393	--	--	559	833	5,454	--	--	2,423	3,031
Clinton, Washington	3,407	--	--	1,782	1,625	12,921	--	--	5,543	7,378
Crawford	2,754	--	--	1,545	1,209	10,860	--	--	6,396	4,463
Cumberland, Jasper	2,090	--	--	604	1,486	8,249	--	--	2,208	6,041
Edwards, Wabash	2,555	--	--	1,582	973	9,670	--	--	5,933	3,737
Effingham	2,813	--	13	913	1,887	11,094	--	--	3,215	7,879
Fayette	4,237	109	--	1,732	2,396	17,279	227	--	5,572	11,480
Greene	1,660	--	--	740	921	5,009	--	--	1,654	3,355
Jefferson	3,619	62	--	1,675	1,882	12,940	193	--	4,903	7,843
Jersey	1,340	3	--	259	1,079	5,442	--	--	1,164	4,278
Lawrence	2,548	--	--	1,800	748	9,523	--	--	6,695	2,828
Macoupin	2,452	--	--	778	1,674	9,176	--	--	2,232	6,944
Madison	2,418	10	2	1,169	1,236	9,097	--	10	4,327	4,759
Marion	2,980	--	8	1,266	1,706	10,960	--	19	4,254	6,687
Monroe	1,637	--	19	552	1,065	6,444	--	154	2,399	3,891
Montgomery	2,098	--	--	810	1,288	7,217	--	--	2,342	4,875
Richland	1,871	--	--	843	1,028	6,050	--	--	2,143	3,906
St. Clair	2,318	--	--	1,411	908	8,450	--	--	4,821	3,629
Shelby	1,927	--	--	951	976	8,441	--	--	3,633	4,808
Wayne	3,438	--	--	1,872	1,566	11,402	--	--	5,533	5,869
Total	56,499	338	43	25,372	30,746	212,408	420	183	86,087	125,718

(Table 20 continued on next page)

(Table 20 continued)

Forest Survey Unit and county/county group	Growing stock					Sawtimber				
		Major species group					Major species group			
	All species	Pine	Other softwoods	Soft hardwoods	Hard hardwoods	All species	Pine	Other softwoods	Soft hardwoods	Hard hardwoods
	(In thousand cubic feet)					(In thousand board feet) [1]				
Prairie Unit										
Adams	3,254	--	61	1,395	1,798	12,385	--	2	4,896	7,487
BoDeKaMc	1,707	107	16	911	673	6,472	125	--	3,237	3,110
Brown	1,782	--	8	489	1,285	6,792	--	--	1,416	5,376
Bureau	1,323	--	--	693	630	4,897	--	--	1,930	2,967
Carroll, Stephenson	2,692	263	--	1,605	823	7,147	1,204	--	2,923	3,020
Cass	1,291	108	--	504	679	5,640	264	--	1,847	3,529
ChChDeFoLiMaMcMoPi	2,354	--	--	1,554	800	9,352	--	--	6,365	2,987
CoDoEd	2,181	--	--	969	1,212	9,046	--	--	3,746	5,300
CoDuLaWi	1,918	38	--	1,529	351	6,657	56	--	5,134	1,468
Fulton	3,499	--	27	1,368	2,104	14,409	--	18	4,973	9,419
GrKeLa	2,001	--	17	1,479	506	6,365	--	70	4,113	2,182
Hancock	1,932	--	6	537	1,390	6,535	--	--	1,435	5,100
Henderson	1,293	4	--	636	653	4,214	24	--	1,563	2,627
Henry, Stark	1,700	--	--	1,183	517	4,693	--	--	2,651	2,042
Iroquois, Kankakee	1,215	120	6	624	464	5,083	256	17	2,421	2,388
Jo Daviess	2,285	139	80	950	1,117	8,783	259	136	4,311	4,077
Knox, Warren	1,761	--	--	806	954	6,036	--	--	2,184	3,852
Lee, Whiteside	1,305	80	--	800	426	4,753	285	--	2,634	1,835
Logan, Tazewell	2,122	--	--	1,487	635	9,177	--	--	6,861	2,316
Marshall, Putnam	1,537	--	--	640	897	5,300	--	--	983	4,317
Mason, Menard	1,623	161	--	641	821	6,884	1,144	--	1,899	3,841
Mc Donough	1,642	--	--	653	989	6,053	--	--	2,340	3,713
Mercer	1,500	126	4	1,027	344	4,805	271	--	3,255	1,279
Morgan, Scott	2,068	--	--	981	1,087	7,774	--	--	3,326	4,448
Ogle	1,509	477	--	281	751	6,253	2,159	--	927	3,167
Peoria	1,627	17	20	726	864	4,838	--	83	1,500	3,255
Pike	6,300	--	8	2,389	3,903	23,788	--	--	7,456	16,332
Rock Island	1,309	--	--	889	421	5,092	--	--	3,300	1,792
Sangamon	1,575	36	--	865	674	7,117	126	--	3,452	3,539
Schuyler	2,432	--	2	765	1,665	9,281	--	--	1,384	7,897
Vermillion	1,124	--	--	453	670	5,319	--	--	2,217	3,102
Winnebago	1,279	12	20	901	346	4,714	59	75	3,375	1,205
Woodford	1,121	--	-1	442	680	4,625	--	99	1,837	2,689
Total	64,262	1,689	272	31,173	31,128	240,279	6,232	500	101,888	131,659
All counties	174,511	4,845	777	80,009	88,870	663,633	19,019	1,773	270,786	372,056

All table cells without observations in the inventory sample are indicated by --. Cells with observations smaller than the precision reported in the table are shown as zero. Columns and rows may not add to their totals due to rounding.

[1] International 1/4 inch rule.

FIA standards require at least 30,000 acres of forest land for a county to be reported individually. Counties with less than 30,000 acres of forest land were combined into county groupings. When more than 2 counties were combined, the group name consists of the first two letters of each county in the group.

[2] BoDeKaMc = Boone, De Kalb, Kane, Mc Henry Counties.
[3] ChChDeFoLiMaMcMoPi = Champaign, Christian, Dewitt, Ford, Livingston, Macon, Mc Lean, Moultrie, Piatt Counties.
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[5] CoDuLaWi = Cook, Du Page, Lake, Will Counties.
[6] GrKeLa = Grundy, Kendall, La Salle Counties.

Table 20A. -- Average annual net growth of growing stock and sawtimber (Doyle rule) on timberland by Forest Survey Unit, county/county group, and major species group, Illinois, 1985-1997

Forest Survey Unit and county/county group	Growing stock					Sawtimber				
		Major species group					Major species group			
	All species	Pine	Other softwoods	Soft hardwoods	Hard hardwoods	All species	Pine	Other softwoods	Soft hardwoods	Hard hardwoods
	(In thousand cubic feet)					(In thousand board feet) [1]				
Southern Unit										
Alexander	3,487	--	--	2,124	1,363	8,161	--	--	4,991	3,170
Franklin	2,286	--	--	938	1,348	4,990	--	--	1,909	3,081
Gallatin	1,682	23	38	685	935	3,534	90	49	1,352	2,043
Hamilton	1,466	--	1	575	889	2,359	--	--	653	1,706
Hardin	2,842	295	82	639	1,827	6,542	605	67	1,614	4,256
Jackson	6,375	537	17	2,910	2,911	14,442	1,262	13	5,469	7,699
Johnson	4,183	338	106	1,238	2,502	8,645	730	230	2,634	5,050
Massac	1,354	33	35	771	505	2,286	79	156	1,115	936
Perry	2,153	63	--	1,056	1,034	4,701	134	--	2,123	2,444
Pope	8,361	904	153	2,151	5,152	18,558	1,512	124	4,502	12,419
Pulaski	2,949	--	-1	2,274	676	6,126	--	--	4,735	1,391
Randolph	3,455	--	1	1,366	2,088	7,834	--	1	2,334	5,499
Saline	1,862	132	8	620	1,102	4,136	407	--	803	2,926
Union	3,952	2	9	1,307	2,634	9,442	13	10	2,996	6,424
White	2,700	--	--	2,138	562	6,141	--	--	4,860	1,282
Williamson	4,644	491	14	2,671	1,468	8,100	538	--	4,071	3,491
Total	53,750	2,818	463	23,463	26,996	115,998	5,370	652	46,158	63,818
Claypan Unit										
Bond	1,298	155	--	570	574	1,908	--	--	769	1,139
Calhoun	2,671	--	--	854	1,818	6,518	--	--	1,975	4,544
Clark	2,973	--	--	1,103	1,870	6,753	--	--	2,371	4,382
Clay	1,393	--	--	559	833	3,303	--	--	1,491	1,812
Clinton, Washington	3,407	--	--	1,782	1,625	7,408	--	--	3,328	4,080
Crawford	2,754	--	--	1,545	1,209	6,805	--	--	4,077	2,729
Cumberland, Jasper	2,090	--	--	604	1,486	4,514	--	--	1,188	3,326
Edwards, Wabash	2,555	--	--	1,582	973	5,564	--	--	3,326	2,238
Effingham	2,813	--	13	913	1,887	7,009	--	--	2,206	4,802
Fayette	4,237	109	--	1,732	2,396	9,767	89	--	3,662	6,017
Greene	1,660	--	--	740	921	2,878	--	--	1,004	1,874
Jefferson	3,619	62	--	1,675	1,882	7,503	90	--	3,125	4,289
Jersey	1,340	3	--	259	1,079	3,254	--	--	661	2,594
Lawrence	2,548	--	--	1,800	748	5,580	--	--	3,777	1,804
Macoupin	2,452	--	--	778	1,674	5,244	--	--	1,372	3,872
Madison	2,418	10	2	1,169	1,236	5,663	--	5	2,585	3,073
Marion	2,980	--	8	1,266	1,706	6,026	--	11	2,287	3,728
Monroe	1,637	--	19	552	1,065	3,820	--	53	1,376	2,391
Montgomery	2,098	--	--	810	1,288	3,757	--	--	1,229	2,528
Richland	1,871	--	--	843	1,028	3,353	--	--	1,258	2,094
St. Clair	2,318	--	--	1,411	908	5,402	--	--	2,961	2,440
Shelby	1,927	--	--	951	976	5,189	--	--	2,572	2,616
Wayne	3,438	--	--	1,872	1,566	6,350	--	--	3,124	3,226
Total	56,499	338	43	25,372	30,746	123,568	178	69	51,723	71,598

(Table 20A continued on next page)

(Table 20A continued)

Forest Survey Unit and county/county group	Growing stock					Sawtimber				
		Major species group					Major species group			
	All species	Pine	Other softwoods	Soft hardwoods	Hard hardwoods	All species	Pine	Other softwoods	Soft hardwoods	Hard hardwoods
	(In thousand cubic feet)					(In thousand board feet) [1]				
Prairie Unit										
Adams	3,254	--	61	1,395	1,798	6,415	--	1	2,606	3,809
BoDeKaMc	1,707	107	16	911	673	4,250	43	--	1,814	2,393
Brown	1,782	--	8	489	1,285	3,777	--	--	765	3,011
Bureau	1,323	--	--	693	630	2,816	--	--	1,029	1,787
Carroll, Stephenson	2,692	263	--	1,605	823	4,266	416	--	1,672	2,177
Cass	1,291	108	--	504	679	3,458	91	--	1,335	2,032
ChChDeFoLiMaMcMoPi	2,354	--	--	1,554	800	5,281	--	--	3,539	1,742
CoDoEd	2,181	--	--	969	1,212	4,692	--	--	2,044	2,648
CoDuLaWi	1,918	38	--	1,529	351	4,296	19	--	3,236	1,041
Fulton	3,499	--	27	1,368	2,104	8,330	--	7	2,717	5,606
GrKeLa	2,001	--	17	1,479	506	3,721	--	54	2,229	1,438
Hancock	1,932	--	6	537	1,390	3,560	--	--	784	2,775
Henderson	1,293	4	--	636	653	2,651	11	--	948	1,691
Henry, Stark	1,700	--	--	1,183	517	2,736	--	--	1,283	1,453
Iroquois, Kankakee	1,215	120	6	624	464	2,753	95	6	1,385	1,267
Jo Daviess	2,285	139	80	950	1,117	4,543	89	52	2,077	2,325
Knox, Warren	1,761	--	--	806	954	3,495	--	--	1,192	2,303
Lee, Whiteside	1,305	80	--	800	426	2,549	106	--	1,328	1,115
Logan, Tazewell	2,122	--	--	1,487	635	5,110	--	--	3,765	1,345
Marshall, Putnam	1,537	--	--	640	897	2,781	--	--	454	2,327
Mason, Menard	1,623	161	--	641	821	3,838	624	--	1,069	2,145
Mc Donough	1,642	--	--	653	989	3,178	--	--	1,062	2,116
Mercer	1,500	126	4	1,027	344	2,461	100	--	1,661	700
Morgan, Scott	2,068	--	--	981	1,087	4,245	--	--	1,776	2,470
Ogle	1,509	477	--	281	751	3,342	762	--	483	2,098
Peoria	1,627	17	20	726	864	2,943	--	57	786	2,100
Pike	6,300	--	8	2,389	3,903	13,681	--	--	4,024	9,657
Rock Island	1,309	--	--	889	421	3,343	--	--	2,174	1,169
Sangamon	1,575	36	--	865	674	3,947	68	--	2,115	1,764
Schuyler	2,432	--	2	765	1,665	5,170	--	--	813	4,357
Vermillion	1,124	--	--	453	670	2,798	--	--	1,162	1,636
Winnebago	1,279	12	20	901	346	2,543	20	34	1,772	717
Woodford	1,121	--	-1	442	680	2,631	--	34	831	1,766
Total	64,262	1,689	272	31,173	31,128	135,599	2,444	244	55,932	76,979
All counties	174,511	4,845	777	80,009	88,870	375,166	7,993	965	153,813	212,394

All table cells without observations in the inventory sample are indicated by --. Cells with observations smaller than the precision reported in the table are shown as zero. Columns and rows may not add to their totals due to rounding.

[1] Doyle rule.

FIA standards require at least 30,000 acres of forest land for a county to be reported individually. Counties with less than 30,000 acres of forest land were combined into county groupings. When more than 2 counties were combined, the group name consists of the first two letters of each county in the group.

[2] BoDeKaMc = Boone, De Kalb, Kane, Mc Henry Counties.

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[5] CoDuLaWi = Cook, Du Page, Lake, Will Counties.

[6] GrKeLa = Grundy, Kendall, La Salle Counties.

Table 21. -- Average annual removals of growing stock and sawtimber (International 1/4 inch rule) on timberland by Forest Survey Unit, county/county group, and major species group, Illinois, 1985-1997

Forest Survey Unit and county/county group	Growing stock					Sawtimber				
		Major species group					Major species group			
	All species	Pine	Other softwoods	Soft hardwoods	Hard hardwoods	All species	Pine	Other softwoods	Soft hardwoods	Hard hardwoods
	(In thousand cubic feet)					(In thousand board feet) [1]				
Southern Unit										
Alexander	864	--	--	518	347	3,650	--	--	2,124	1,526
Franklin	385	--	--	--	385	1,890	--	--	--	1,890
Gallatin	868	--	--	354	513	3,178	--	--	1,021	2,157
Hamilton	711	--	--	148	563	3,101	--	--	472	2,628
Hardin	175	--	--	--	175	804	--	--	--	804
Jackson	2,932	125	22	1,073	1,713	11,907	91	92	4,630	7,093
Johnson	1,625	--	--	609	1,017	5,298	--	--	2,277	3,020
Massac	1,808	--	--	1,108	700	6,501	--	--	3,951	2,550
Perry	770	--	--	330	440	2,895	--	--	1,472	1,422
Pope	2,517	621	--	515	1,381	9,587	2,263	--	2,069	5,255
Pulaski	2,199	--	--	1,826	373	9,678	--	--	8,052	1,627
Randolph	1,540	--	--	1,032	509	5,941	--	--	3,707	2,234
Saline	1,669	--	--	422	1,247	7,423	--	--	1,421	6,002
Union	2,305	--	--	930	1,375	9,649	--	--	4,207	5,442
White	823	--	--	672	151	3,000	--	--	2,465	534
Williamson	487	--	--	186	301	1,524	--	--	326	1,198
Total	21,678	746	22	9,721	11,189	86,026	2,354	92	38,195	45,384
Claypan Unit										
Bond	--	--	--	--	--	--	--	--	--	--
Calhoun	2,280	--	--	505	1,775	10,450	--	--	2,118	8,331
Clark	3,524	--	--	459	3,066	14,867	--	--	1,660	13,207
Clay	1,076	--	--	--	1,076	5,130	--	--	--	5,130
Clinton, Washington	931	--	--	447	484	2,257	--	--	143	2,114
Crawford	563	--	--	82	481	2,118	--	--	358	1,761
Cumberland, Jasper	322	--	--	--	322	919	--	--	--	919
Edwards, Wabash	1,378	--	--	293	1,085	4,056	--	--	--	4,056
Effingham	655	--	--	41	614	2,434	--	--	--	2,434
Fayette	334	--	--	334	--	1,430	--	--	1,430	--
Greene	93	--	--	48	45	257	--	--	108	148
Jefferson	32	--	--	--	32	143	--	--	--	143
Jersey	274	--	--	135	139	1,272	--	--	638	635
Lawrence	678	--	--	678	--	2,306	--	--	2,306	--
Macoupin	383	--	--	105	278	1,174	--	--	548	626
Madison	869	--	--	157	712	3,635	--	--	715	2,920
Marion	95	--	--	70	25	232	--	--	107	126
Monroe	2,268	--	--	982	1,286	9,872	--	--	4,348	5,524
Montgomery	2,928	--	--	965	1,963	10,623	--	--	2,638	7,985
Richland	708	--	--	--	708	2,958	--	--	--	2,958
St. Clair	633	--	--	292	340	2,149	--	--	819	1,330
Shelby	62	--	--	--	62	301	--	--	--	301
Wayne	416	--	--	66	350	1,635	--	--	301	1,334
Total	20,501	--	--	5,659	14,842	80,218	--	--	18,237	61,981

(Table 21 continued on next page)

(Table 21 continued)

Forest Survey Unit and county/county group	Growing stock					Sawtimber				
		Major species group					Major species group			
	All species	Pine	Other softwoods	Soft hardwoods	Hard hardwoods	All species	Pine	Other softwoods	Soft hardwoods	Hard hardwoods
Prairie Unit	(In thousand cubic feet)					(In thousand board feet) [1]				
Adams	778	--	--	89	689	3,065	--	--	270	2,795
BoDeKaMc	518	--	--	113	405	2,191	--	--	393	1,797
Brown	181	--	--	61	120	636	--	--	283	353
Bureau	247	--	--	50	196	618	--	--	--	618
Carroll, Stephenson	275	--	--	78	197	1,300	--	--	356	944
Cass	1,534	--	--	146	1,388	6,581	--	--	709	5,872
ChChDeFoLiMaMcMoPi	1,692	--	--	774	919	7,076	--	--	2,784	4,292
CoDoEd	820	--	--	266	554	3,490	--	--	1,330	2,161
CoDuLaWi	261	137	--	123	--	528	214	--	314	--
Fulton	3,732	--	116	659	2,957	16,733	--	264	2,841	13,627
GrKeLa	956	--	--	417	538	3,652	--	--	1,266	2,386
Hancock	669	--	--	522	146	3,257	--	--	2,600	657
Henderson	483	--	--	483	--	461	--	--	461	--
Henry, Stark	693	--	--	--	693	3,170	--	--	--	3,170
Iroquois, Kankakee	1,197	--	--	415	782	5,175	--	--	1,776	3,399
Jo Daviess	1,689	--	--	718	970	3,293	--	--	1,103	2,190
Knox, Warren	1,166	--	--	554	612	2,596	--	--	1,078	1,518
Lee, Whiteside	--	--	--	--	--	--	--	--	--	--
Logan, Tazewell	321	--	--	181	140	643	--	--	643	--
Marshall, Putnam	--	--	--	--	--	--	--	--	--	--
Mason, Menard	--	--	--	--	--	--	--	--	--	--
Mc Donough	933	--	--	--	933	3,536	--	--	--	3,536
Mercer	52	--	--	24	28	137	--	--	--	137
Morgan, Scott	1,162	--	--	265	897	3,053	--	--	392	2,662
Ogle	397	--	--	--	397	1,445	--	--	--	1,445
Peoria	--	--	--	--	--	--	--	--	--	--
Pike	3,478	--	--	278	3,200	15,268	--	--	1,051	14,217
Rock Island	--	--	--	--	--	--	--	--	--	--
Sangamon	214	--	--	--	214	925	--	--	--	925
Schuyler	1,184	--	--	542	642	4,228	--	--	1,470	2,758
Vermillion	61	--	--	--	61	215	--	--	--	215
Winnebago	--	--	--	--	--	--	--	--	--	--
Woodford	--	--	--	--	--	--	--	--	--	--
Total	24,692	137	116	6,760	17,679	93,274	214	264	21,122	71,673
All counties	66,871	883	138	22,140	43,710	259,518	2,568	357	77,554	179,039

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[1] International 1/4 inch rule.

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Table 21A. -- Average annual removals of growing stock and sawtimber (Doyle rule) on timberland by Forest Survey Unit, county/county group, and major species group, Illinois, 1985-1997

Forest Survey Unit and county/county group	Growing stock					Sawtimber				
		Major species group					Major species group			
	All species	Pine	Other softwoods	Soft hardwoods	Hard hardwoods	All species	Pine	Other softwoods	Soft hardwoods	Hard hardwoods
	(In thousand cubic feet)					(In thousand board feet) [1]				
Southern Unit										
Alexander	864	--	--	518	347	2,633	--	--	1,575	1,058
Franklin	385	--	--	--	385	1,141	--	--	--	1,141
Gallatin	868	--	--	354	513	1,879	--	--	588	1,292
Hamilton	711	--	--	148	563	1,985	--	--	216	1,769
Hardin	175	--	--	--	175	493	--	--	--	493
Jackson	2,932	125	22	1,073	1,713	7,963	31	79	3,449	4,404
Johnson	1,625	--	--	609	1,017	3,070	--	--	1,477	1,593
Massac	1,808	--	--	1,108	700	4,138	--	--	2,358	1,780
Perry	770	--	--	330	440	1,975	--	--	1,120	855
Pope	2,517	621	--	515	1,381	6,523	1,094	--	1,638	3,792
Pulaski	2,199	--	--	1,826	373	5,940	--	--	4,973	967
Randolph	1,540	--	--	1,032	509	3,766	--	--	2,234	1,531
Saline	1,669	--	--	422	1,247	4,748	--	--	896	3,852
Union	2,305	--	--	930	1,375	5,556	--	--	2,490	3,066
White	823	--	--	672	151	2,111	--	--	1,860	251
Williamson	487	--	--	186	301	917	--	--	136	781
Total	21,678	746	22	9,721	11,189	54,838	1,125	79	25,011	28,623
Claypan Unit										
Bond	--	--	--	--	--	--	--	--	--	--
Calhoun	2,280	--	--	505	1,775	6,414	--	--	1,283	5,131
Clark	3,524	--	--	459	3,066	10,616	--	--	858	9,758
Clay	1,076	--	--	--	1,076	3,351	--	--	--	3,351
Clinton, Washington	931	--	--	447	484	1,614	--	--	59	1,554
Crawford	563	--	--	82	481	1,214	--	--	149	1,065
Cumberland, Jasper	322	--	--	--	322	854	--	--	--	854
Edwards, Wabash	1,378	--	--	293	1,085	2,959	--	--	--	2,959
Effingham	655	--	--	41	614	1,531	--	--	--	1,531
Fayette	334	--	--	334	--	1,030	--	--	1,030	--
Greene	93	--	--	48	45	152	--	--	45	106
Jefferson	32	--	--	--	32	163	--	--	--	163
Jersey	274	--	--	135	139	799	--	--	323	475
Lawrence	678	--	--	678	--	1,711	--	--	1,711	--
Macoupin	383	--	--	105	278	578	--	--	229	349
Madison	869	--	--	157	712	2,479	--	--	456	2,023
Marion	95	--	--	70	25	107	--	--	55	52
Monroe	2,268	--	--	982	1,286	7,025	--	--	3,233	3,791
Montgomery	2,928	--	--	965	1,963	6,802	--	--	1,604	5,199
Richland	708	--	--	--	708	2,038	--	--	--	2,038
St. Clair	633	--	--	292	340	1,625	--	--	580	1,045
Shelby	62	--	--	--	62	126	--	--	--	126
Wayne	416	--	--	66	350	1,058	--	--	154	904
Total	20,501	--	--	5,659	14,842	54,245	--	--	11,769	42,475

(Table 21A continued on next page)

(Table 21A continued)

Forest Survey Unit and county/county group	Growing stock					Sawtimber				
		Major species group					Major species group			
	All species	Pine	Other softwoods	Soft hardwoods	Hard hardwoods	All species	Pine	Other softwoods	Soft hardwoods	Hard hardwoods
	(In thousand cubic feet)					(In thousand board feet) [1]				
Prairie Unit										
Adams	778	--	--	89	689	2,093	--	--	212	1,881
BoDeKaMc	518	--	--	113	405	1,746	--	--	373	1,374
Brown	181	--	--	61	120	412	--	--	118	294
Bureau	247	--	--	50	196	617	--	--	--	617
Carroll, Stephenson	275	--	--	78	197	695	--	--	182	513
Cass	1,534	--	--	146	1,388	4,838	--	--	501	4,337
ChChDeFoLiMaMcMoPi	1,692	--	--	774	919	4,965	--	--	2,093	2,871
CoDoEd	820	--	--	266	554	2,575	--	--	992	1,583
CoDuLaWi	261	137	--	123	--	254	74	--	180	--
Fulton	3,732	--	116	659	2,957	11,816	--	109	2,194	9,513
GrKeLa	956	--	--	417	538	2,867	--	--	909	1,957
Hancock	669	--	--	522	146	2,233	--	--	1,670	563
Henderson	483	--	--	483	--	236	--	--	236	--
Henry, Stark	693	--	--	--	693	2,575	--	--	--	2,575
Iroquois, Kankakee	1,197	--	--	415	782	4,178	--	--	1,424	2,755
Jo Daviess	1,689	--	--	718	970	1,469	--	--	460	1,009
Knox, Warren	1,166	--	--	554	612	2,121	--	--	632	1,488
Lee, Whiteside	--	--	--	--	--	--	--	--	--	--
Logan, Tazewell	321	--	--	181	140	562	--	--	562	--
Marshall, Putnam	--	--	--	--	--	--	--	--	--	--
Mason, Menard	--	--	--	--	--	--	--	--	--	--
Mc Donough	933	--	--	--	933	2,778	--	--	--	2,778
Mercer	52	--	--	24	28	57	--	--	--	57
Morgan, Scott	1,162	--	--	265	897	2,596	--	--	163	2,433
Ogle	397	--	--	--	397	887	--	--	--	887
Peoria	--	--	--	--	--	--	--	--	--	--
Pike	3,478	--	--	278	3,200	11,046	--	--	634	10,411
Rock Island	--	--	--	--	--	--	--	--	--	--
Sangamon	214	--	--	--	214	702	--	--	--	702
Schuyler	1,184	--	--	542	642	2,370	--	--	688	1,682
Vermillion	61	--	--	--	61	244	--	--	--	244
Winnebago	--	--	--	--	--	--	--	--	--	--
Woodford	--	--	--	--	--	--	--	--	--	--
Total	24,692	137	116	6,760	17,679	66,933	74	109	14,226	52,523
All counties	66,871	883	138	22,140	43,710	176,015	1,199	188	51,007	123,621

All table cells without observations in the inventory sample are indicated by --. Cells with observations smaller than the precision reported in the table are shown as zero. Columns and rows may not add to their totals due to rounding.

[1] Doyle rule.

FIA standards require at least 30,000 acres of forest land for a county to be reported individually. Counties with less than 30,000 acres of forest land were combined into county groupings. When more than 2 counties were combined, the group name consists of the first two letters of each county in the group.

[2] BoDeKaMc = Boone, De Kalb, Kane, Mc Henry Counties.

[3] ChChDeFoLiMaMcMoPi = Champaign, Christian, Dewitt, Ford, Livingston, Macon, Mc Lean, Moultrie, Piatt Counties.

[4] CoDoEd = Coles, Douglas, Edgar Counties.

[5] CoDuLaWi = Cook, Du Page, Lake, Will Counties.

[6] GrKeLa = Grundy, Kendall, La Salle Counties.

Table 22. -- Average annual net growth and average annual removals of growing stock and sawtimber (International 1/4 inch rule) on timberland by species group, Illinois, 1985-1997

Species group	Growing stock		Sawtimber	
	Average annual net growth	Average annual removals	Average annual net growth	Average annual removals
	(In thousand cubic feet)		(In thousand board feet)[1]	
Softwoods				
Jack pine	78	--	79	--
Red pine	484	17	1,880	--
White pine	2,047	--	6,680	--
Loblolly pine	273	--	1,282	--
Shortleaf pine	1,833	746	8,904	2,354
Baldcypress	74	--	378	--
Eastern redcedar	665	138	1,320	357
Other softwoods	169	120	269	214
Total softwoods	5,623	1,021	20,792	2,925
Hardwoods				
Select white oak	19,349	11,982	87,986	48,867
Other white oak	2,792	1,357	13,480	6,021
Select red oak	9,230	5,573	44,406	24,351
Other red oak	25,544	13,930	110,813	61,715
Select hickory	8,447	3,919	30,590	15,318
Other hickory	7,286	2,511	29,863	9,197
Basswood	1,734	539	7,535	1,993
Beech	184	286	939	1,375
Yellow birch	--	--	--	--
Hard maple	5,668	1,569	19,322	5,590
Soft maple	14,944	3,553	53,983	11,615
Elm	12,933	2,567	24,142	4,756
Black ash	155	--	537	--
White & green ash	10,789	3,604	40,128	12,472
Sycamore	5,264	3,016	22,415	13,322
Cottonwood	9,294	2,438	40,940	11,762
Willow	3,338	339	10,283	1,155
Hackberry	4,661	649	15,089	1,793
Bigtooth aspen	13	--	30	--
Quaking aspen	71	--	204	--
River birch	1,027	502	3,115	1,278
Sweetgum	2,619	352	10,209	1,254
Tupelo	643	239	2,192	938
Black cherry	4,736	1,539	11,721	4,285
Black walnut	4,818	740	17,794	2,578
Butternut	223	30	637	--
Yellow-poplar	3,993	1,646	18,972	8,397
Other hardwoods	9,156	2,970	25,516	6,561
Total hardwoods	168,911	65,850	642,841	256,593
All species	174,511	66,871	663,633	259,518

All table cells without observations in the inventory sample are indicated by --. Cells with observations smaller than the precision reported in the table are shown as zero. Columns and rows may not add to their totals due to rounding.

[1] International 1/4 inch rule.

Table 22A. -- Average annual net growth and average annual removals of growing stock and sawtimber (Doyle rule) on timberland by species group, Illinois, 1985-1997

Species group	Growing stock		Sawtimber	
	Average annual net growth	Average annual removals	Average annual net growth	Average annual removals
	(In thousand cubic feet)		(In thousand board feet)[1]	
Softwoods				
Jack pine	78	--	27	--
Red pine	484	17	662	--
White pine	2,047	--	2,895	--
Loblolly pine	273	--	655	--
Shortleaf pine	1,833	746	3,688	1,125
Baldcypress	74	--	342	--
Eastern redcedar	665	138	589	188
Other softwoods	169	120	101	74
Total softwoods	5,623	1,021	8,958	1,387
Hardwoods				
Select white oak	19,349	11,982	52,694	35,474
Other white oak	2,792	1,357	7,247	4,079
Select red oak	9,230	5,573	28,495	18,697
Other red oak	25,544	13,930	65,766	42,123
Select hickory	8,447	3,919	15,328	8,943
Other hickory	7,286	2,511	14,968	5,604
Basswood	1,734	539	3,994	1,359
Beech	184	286	634	1,062
Yellow birch	--	--	--	--
Hard maple	5,668	1,569	9,973	3,490
Soft maple	14,944	3,553	31,019	8,125
Elm	12,933	2,567	11,873	2,565
Black ash	155	--	233	--
White & green ash	10,789	3,604	20,928	8,014
Sycamore	5,264	3,016	15,583	9,339
Cottonwood	9,294	2,438	27,155	8,328
Willow	3,338	339	5,113	524
Hackberry	4,661	649	8,004	1,000
Bigtooth aspen	13	--	18	--
Quaking aspen	71	--	85	--
River birch	1,027	502	1,566	533
Sweetgum	2,619	352	5,388	844
Tupelo	643	239	1,090	555
Black cherry	4,736	1,539	5,826	2,454
Black walnut	4,818	740	8,623	1,480
Butternut	223	30	283	--
Yellow-poplar	3,993	1,646	11,498	5,836
Other hardwoods	9,156	2,970	12,823	4,199
Total hardwoods	168,911	65,850	366,207	174,628
All species	174,511	66,871	375,166	176,015

All table cells without observations in the inventory sample are indicated by --. Cells with observations smaller than the precision reported in the table are shown as zero. Columns and rows may not add to their totals due to rounding.

[1] Doyle rule.

Table 23. -- Average annual mortality of growing stock and sawtimber (International 1/4 inch rule) on timberland by species group, Illinois, 1985-1997

Species group	Growing stock average annual mortality	Sawtimber average annual mortality
	(In thousand cubic feet)	(In thousand board feet)[1]
Softwoods		
Jack pine	5	--
Red pine	117	6
White pine	565	1,848
Loblolly pine	10	--
Shortleaf pine	422	1,199
Baldcypress	104	523
Eastern redcedar	139	460
Other softwoods	49	14
Total softwoods	1,411	4,049
Hardwoods		
Select white oak	5,488	15,916
Other white oak	1,229	3,433
Select red oak	4,318	14,730
Other red oak	10,553	32,047
Select hickory	3,170	10,192
Other hickory	2,333	6,948
Basswood	715	2,086
Beech	35	85
Yellow birch	--	--
Hard maple	1,411	4,178
Soft maple	5,357	14,914
Elm	12,236	21,279
Black ash	22	8
White & green ash	5,312	12,891
Sycamore	1,156	4,391
Cottonwood	4,744	16,295
Willow	1,887	4,252
Hackberry	1,617	5,323
Bigtooth aspen	4	--
Quaking aspen	40	--
River birch	856	2,017
Sweetgum	626	1,698
Tupelo	231	803
Black cherry	1,800	3,021
Black walnut	776	1,626
Butternut	68	135
Yellow-poplar	440	1,102
Other hardwoods	5,623	11,138
Total hardwoods	72,046	190,507
All species	73,457	194,555

All table cells without observations in the inventory sample are indicated by --. Cells with observations smaller than the precision reported in the table are shown as zero. Columns and rows may not add to their totals due to rounding.

[1] International 1/4 inch rule.

Table 23A. -- Average annual mortality of growing stock and sawtimber (Doyle rule) on timberland by species group, Illinois, 1985-1997

Species group	Growing stock average annual mortality	Sawtimber average annual mortality
	(In thousand cubic feet)	(In thousand board feet)[1]
Softwoods		
Jack pine	5	--
Red pine	117	2
White pine	565	872
Loblolly pine	10	--
Shortleaf pine	422	597
Baldcypress	104	496
Eastern redcedar	139	193
Other softwoods	49	6
Total softwoods	1,411	2,166
Hardwoods		
Select white oak	5,488	12,190
Other white oak	1,229	2,007
Select red oak	4,318	11,455
Other red oak	10,553	22,721
Select hickory	3,170	6,891
Other hickory	2,333	3,964
Basswood	715	1,219
Beech	35	85
Yellow birch	--	--
Hard maple	1,411	2,721
Soft maple	5,357	11,402
Elm	12,236	11,596
Black ash	22	4
White & green ash	5,312	7,602
Sycamore	1,156	4,287
Cottonwood	4,744	12,711
Willow	1,887	2,804
Hackberry	1,617	4,038
Bigtooth aspen	4	--
Quaking aspen	40	--
River birch	856	1,120
Sweetgum	626	1,097
Tupelo	231	711
Black cherry	1,800	1,695
Black walnut	776	895
Butternut	68	135
Yellow-poplar	440	620
Other hardwoods	5,623	6,102
Total hardwoods	72,046	130,071
All species	73,457	132,237

All table cells without observations in the inventory sample are indicated by --. Cells with observations smaller than the precision reported in the table are shown as zero. Columns and rows may not add to their totals due to rounding.

[1] Doyle rule.

Table 24. -- Average annual net growth and average annual removals of growing stock and sawtimber (International 1/4 inch rule) on timberland by ownership class and major species group, Illinois, 1985-1997

Ownership class	Average net annual growth of growing stock				
		Major species group			
	All species	Pine	Other softwoods	Soft hardwoods	Hard hardwoods
	(In thousand cubic feet)				
National forest	14,309	2,032	202	3,718	8,357
Other federal	3,145	53	--	2,421	671
State	3,759	161	39	2,050	1,509
County and municipal	2,592	--	--	1,866	725
Forest industry	339	--	--	91	248
Corporate	11,045	357	4	6,136	4,548
Individual	139,323	2,243	533	63,727	72,811
All ownerships	174,511	4,845	777	80,009	88,870

Ownership class	Average annual removals of growing stock [2]				
		Major species group			
	All species	Pine	Other softwoods	Soft hardwoods	Hard hardwoods
	(In thousand cubic feet)				
National forest	3,973	746	--	1,060	2,167
Other federal	1,631	--	--	1,455	176
State	1,409	--	--	937	472
County and municipal	1,745	--	--	761	984
Forest industry	--	--	--	--	--
Corporate	2,136	137	--	909	1,089
Individual	55,978	--	138	17,018	38,822
All ownerships	66,871	883	138	22,140	43,710

Ownership class	Average net annual growth of sawtimber				
		Major species group			
	All species	Pine	Other softwoods	Soft hardwoods	Hard hardwoods
	(In thousand board feet) [1]				
National forest	62,971	9,416	411	15,369	37,775
Other federal	12,220	478	--	8,601	3,141
State	13,181	1,144	194	5,293	6,550
County and municipal	9,369	--	--	6,327	3,042
Forest industry	1,559	--	--	362	1,196
Corporate	41,894	1,536	--	21,279	19,079
Individual	522,439	6,444	1,169	213,553	301,273
All ownerships	663,633	19,019	1,773	270,786	372,056

Ownership class	Average annual removals of sawtimber [2]				
		Major species group			
	All species	Pine	Other softwoods	Soft hardwoods	Hard hardwoods
	(In thousand board feet) [1]				
National forest	14,630	2,354	--	4,215	8,061
Other federal	6,487	--	--	5,893	594
State	5,986	--	--	4,050	1,936
County and municipal	4,990	--	--	1,388	3,603
Forest industry	--	--	--	--	--
Corporate	8,977	214	--	3,700	5,064
Individual	218,448	--	357	58,308	159,783
All ownerships	259,518	2,568	357	77,554	179,039

All table cells without observations in the inventory sample are indicated by --. Cells with observations smaller than the precision reported in the table are shown as zero. Columns and rows may not add to their totals due to rounding.

[1] International 1/4 inch rule.

[2] Removals include trees removed by harvesting, logging residue, and all timber that was on land that is no longer timberland such as reserved forest land, other forest land, and nonforest land.

Table 24A. -- Average annual net growth and average annual removals of growing stock and sawtimber (Doyle rule) on timberland by ownership class and major species group, Illinois, 1985-1997

Ownership class	All species	Pine	Other softwoods	Soft hardwoods	Hard hardwoods
	Average net annual growth of growing stock				
	Major species group				
	(In thousand cubic feet)				
National forest	14,309	2,032	202	3,718	8,357
Other federal	3,145	53	--	2,421	671
State	3,759	161	39	2,050	1,509
County and municipal	2,592	--	--	1,866	725
Forest industry	339	--	--	91	248
Corporate	11,045	357	4	6,136	4,548
Individual	139,323	2,243	533	63,727	72,811
All ownerships	174,511	4,845	777	80,009	88,870
	Average annual removals of growing stock [2]				
	Major species group				
	(In thousand cubic feet)				
National forest	3,973	746	--	1,060	2,167
Other federal	1,631	--	--	1,455	176
State	1,409	--	--	937	472
County and municipal	1,745	--	--	761	984
Forest industry	--	--	--	--	--
Corporate	2,136	137	--	909	1,089
Individual	55,978	--	138	17,018	38,822
All ownerships	66,871	883	138	22,140	43,710
	Average net annual growth of sawtimber				
	Major species group				
	(In thousand board feet) [1]				
National forest	34,618	4,084	166	9,083	21,285
Other federal	7,038	244	--	5,082	1,712
State	8,307	624	186	3,525	3,972
County and municipal	5,583	--	--	3,839	1,744
Forest industry	919	--	--	260	659
Corporate	22,692	661	--	11,701	10,330
Individual	296,009	2,381	613	120,324	172,691
All ownerships	375,166	7,993	965	153,813	212,394
	Average annual removals of sawtimber [2]				
	Major species group				
	(In thousand board feet) [1]				
National forest	9,183	1,125	--	3,054	5,004
Other federal	4,253	--	--	3,882	370
State	4,241	--	--	3,000	1,241
County and municipal	3,200	--	--	956	2,244
Forest industry	--	--	--	--	--
Corporate	6,444	74	--	2,701	3,668
Individual	148,694	--	188	37,413	111,093
All ownerships	176,015	1,199	188	51,007	123,621

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[1] Doyle rule.

[2] Removals include trees removed by harvesting, logging residue, and all timber that was on land that is no longer timberland such as reserved forest land, other forest land, and nonforest land.

Table 25. -- Average annual net growth and average annual removals of growing stock and sawtimber (International 1/4 inch rule) on timberland by forest type group/local type and major species group, Illinois, 1985-1997

Forest type group/ local type	Average net annual growth of growing stock					Average annual removals of growing stock				
		Major species group					Major species group			
	All species	Pine	Other softwoods	Soft hardwoods	Hard hardwoods	All species	Pine	Other softwoods	Soft hardwoods	Hard hardwoods
	(In thousand cubic feet)					(In thousand cubic feet)				
Softwood type groups										
White-red-jack pine										
White pine	2,131	2,015	30	79	8	--	--	--	--	--
Loblolly-shortleaf pine										
Shortleaf pine	1,755	1,414	--	274	68	848	746	--	71	31
Oak-pine										
Eastern redcedar	141	--	39	9	92	--	--	--	--	--
Eastern redcedar-hardwood	544	29	88	266	162	492	--	138	216	139
Oak-pine	1,002	605	26	179	191	168	137	--	31	--
Total	1,687	634	153	455	445	661	137	138	247	139
All softwood types	5,574	4,063	183	807	521	1,509	883	138	318	170
Hardwood type groups										
Oak-hickory										
Chestnut-scarlet oak	7,855	13	77	1,171	6,594	2,040	--	--	265	1,776
White oak-red oak-hickory	76,634	635	350	18,225	57,423	27,981	--	--	4,674	23,307
Total	84,488	648	427	19,396	64,017	30,022	--	--	4,939	25,083
Oak-gum-cypress										
Oak-gum-cypress	5,222	--	--	2,872	2,340	450	--	--	103	348
Elm-ash-cottonwood										
Elm-ash-soft maple	46,840	--	54	38,909	7,877	16,509	--	--	11,487	5,021
Maple-beech-birch										
Maple-beech	31,467	118	102	17,320	13,927	18,293	--	--	5,216	13,077
All hardwood types	168,018	766	583	78,497	88,161	65,274	--	--	21,745	43,528
Nonstocked	919	16	12	704	187	88	--	--	77	12
All forest types	174,511	4,845	777	80,009	88,870	66,871	883	138	22,140	43,710

Forest type group/ local type	Average net annual growth of sawtimber					Average annual removals of sawtimber				
		Major species group					Major species group			
	All species	Pine	Other softwoods	Soft hardwoods	Hard hardwoods	All species	Pine	Other softwoods	Soft hardwoods	Hard hardwoods
	(In thousand board feet) [1]					(In thousand board feet) [1]				
Softwood type groups										
White-red-jack pine										
White pine	7,838	7,600	93	145	--	--	--	--	--	--
Loblolly-shortleaf pine										
Shortleaf pine	7,478	6,368	--	794	316	2,354	2,354	--	--	--
Oak-pine										
Eastern redcedar	223	--	85	--	138	--	--	--	--	--
Eastern redcedar-hardwood	1,034	90	82	164	698	1,326	--	357	556	413
Oak-pine	3,200	1,653	--	687	860	291	214	--	77	--
Total	4,457	1,743	166	852	1,697	1,616	214	357	633	413
All softwood types	19,773	15,711	259	1,790	2,013	3,970	2,568	357	633	413
Hardwood type groups										
Oak-hickory										
Chestnut-scarlet oak	33,276	24	2	3,422	29,829	7,977	--	--	680	7,297
White oak-red oak-hickory	309,194	2,690	989	58,764	246,751	112,684	--	--	15,621	97,064
Total	342,471	2,714	991	62,186	276,580	120,661	--	--	16,300	104,361
Oak-gum-cypress										
Oak-gum-cypress	21,836	--	--	11,821	10,014	1,738	--	--	273	1,464
Elm-ash-cottonwood										
Elm-ash-soft maple	166,258	--	194	135,535	30,529	60,319	--	--	41,803	18,515
Maple-beech-birch										
Maple-beech	109,493	519	330	56,535	52,108	72,774	--	--	18,545	54,230
All hardwood types	640,057	3,233	1,515	266,078	369,231	255,492	--	--	76,921	178,570
Nonstocked	3,804	74	-1	2,918	812	56	--	--	--	56
All forest types	663,633	19,019	1,773	270,786	372,056	259,518	2,568	357	77,554	179,039

All table cells without observations in the inventory sample are indicated by --. Cells with observations smaller than the precision reported in the table are shown as zero. Columns and rows may not add to their totals due to rounding.

[1] International 1/4 inch rule.

Table 25A. -- Average annual net growth and average annual removals of growing stock and sawtimber (Doyle rule) on timberland by forest type group/local type and major species group, Illinois, 1985-1997

Forest type group/ local type	Average net annual growth of growing stock					Average annual removals of growing stock				
		Major species group					Major species group			
	All species	Pine	Other softwoods	Soft hardwoods	Hard hardwoods	All species	Pine	Other softwoods	Soft hardwoods	Hard hardwoods
	(In thousand cubic feet)					(In thousand cubic feet)				
Softwood type groups										
White-red-jack pine										
White pine	2,131	2,015	30	79	8	--	--	--	--	--
Loblolly-shortleaf pine										
Shortleaf pine	1,755	1,414	--	274	68	848	746	--	71	31
Oak-pine										
Eastern redcedar	141	--	39	9	92	--	--	--	--	--
Eastern redcedar-hardwood	544	29	88	266	162	492	--	138	216	139
Oak-pine	1,002	605	26	179	191	168	137	--	31	--
Total	1,687	634	153	455	445	661	137	138	247	139
All softwood types	5,574	4,063	183	807	521	1,509	883	138	318	170
Hardwood type groups										
Oak-hickory										
Chestnut-scarlet oak	7,855	13	77	1,171	6,594	2,040	--	--	265	1,776
White oak-red oak-hickory	76,634	635	350	18,225	57,423	27,981	--	--	4,674	23,307
Total	84,488	648	427	19,396	64,017	30,022	--	--	4,939	25,083
Oak-gum-cypress										
Oak-gum-cypress	5,222	--	--	2,872	2,340	450	--	--	103	348
Elm-ash-cottonwood										
Elm-ash-soft maple	46,840	--	54	38,909	7,877	16,509	--	--	11,487	5,021
Maple-beech-birch										
Maple-beech	31,467	118	102	17,320	13,927	18,293	--	--	5,216	13,077
All hardwood types	168,018	766	583	78,497	88,161	65,274	--	--	21,745	43,528
Nonstocked	919	16	12	704	187	88	--	--	77	12
All forest types	174,511	4,845	777	80,009	88,870	66,871	883	138	22,140	43,710

Forest type group/ local type	Average net annual growth of sawtimber					Average annual removals of sawtimber				
		Major species group					Major species group			
	All species	Pine	Other softwoods	Soft hardwoods	Hard hardwoods	All species	Pine	Other softwoods	Soft hardwoods	Hard hardwoods
	(In thousand board feet) [1]					(In thousand board feet) [1]				
Softwood type groups										
White-red-jack pine										
White pine	3,228	3,128	40	60	--	--	--	--	--	--
Loblolly-shortleaf pine										
Shortleaf pine	3,243	2,627	--	420	196	1,125	1,125	--	--	--
Oak-pine										
Eastern redcedar	104	--	33	--	71	--	--	--	--	--
Eastern redcedar-hardwood	484	43	32	88	321	859	--	188	428	243
Oak-pine	1,623	720	--	388	515	106	74	--	32	--
Total	2,211	763	65	476	907	965	74	188	460	243
All softwood types	8,683	6,518	105	957	1,103	2,090	1,199	188	460	243
Hardwood type groups										
Oak-hickory										
Chestnut-scarlet oak	18,762	11	1	1,627	17,123	5,041	--	--	398	4,643
White oak-red oak-hickory	174,455	1,209	422	31,797	141,027	76,239	--	--	9,503	66,736
Total	193,217	1,220	423	33,424	158,150	81,281	--	--	9,901	71,379
Oak-gum-cypress										
Oak-gum-cypress	12,616	--	--	6,689	5,927	1,209	--	--	180	1,030
Elm-ash-cottonwood										
Elm-ash-soft maple	96,247	--	186	78,613	17,448	41,676	--	--	28,683	12,992
Maple-beech-birch										
Maple-beech	62,273	229	252	32,527	29,265	49,737	--	--	11,783	37,954
All hardwood types	364,353	1,449	861	151,254	210,789	173,902	--	--	50,547	123,355
Nonstocked	2,130	26	0	1,602	502	23	--	--	--	23
All forest types	375,166	7,993	965	153,813	212,394	176,015	1,199	188	51,007	123,621

All table cells without observations in the inventory sample are indicated by --. Cells with observations smaller than the precision reported in the table are shown as zero. Columns and rows may not add to their totals due to rounding.

[1] Doyle rule.

Table 26. -- All live aboveground tree biomass on timberland by ownership class, major species group, and tree biomass component, Illinois, 1998

(In green tons)

Ownership class and major species group	All components	Tree biomass component						
		All live 1-5 inch trees	Growing-stock trees			Non-growing-stock trees		
			Stumps	Boles	Tops and limbs	Stumps	Boles	Tops and limbs
National forest								
Pine	1,776	26	102	1,476	170	0	1	0
Other softwoods	144	45	8	64	20	1	5	2
Soft hardwoods	4,438	563	198	2,544	753	26	265	89
Hard hardwoods	15,585	867	794	10,201	2,893	49	605	177
Total	21,943	1,501	1,102	14,285	3,836	76	876	268
Other federal								
Pine	246	--	11	213	22	--	--	--
Other softwoods	5	--	--	--	--	1	3	1
Soft hardwoods	4,396	126	200	2,923	773	18	284	73
Hard hardwoods	1,344	33	72	939	265	2	23	9
Total	5,992	159	283	4,075	1,060	21	311	83
State								
Pine	505	--	26	433	45	--	--	--
Other softwoods	277	--	10	228	40	--	--	--
Soft hardwoods	3,435	192	136	1,960	517	29	490	111
Hard hardwoods	4,901	153	239	3,395	853	14	196	50
Total	9,118	345	411	6,016	1,455	44	686	161
County and municipal								
Soft hardwoods	2,375	205	106	1,401	383	16	206	57
Hard hardwoods	1,865	126	95	1,225	345	4	55	15
Total	4,240	331	201	2,626	727	21	262	71
Forest industry								
Soft hardwoods	203	6	6	115	29	2	38	8
Hard hardwoods	645	11	34	475	125	--	--	--
Total	849	17	40	590	154	2	38	8
Corporate								
Pine	478	3	28	374	45	2	22	4
Other softwoods	9	4	1	4	1	--	--	--
Soft hardwoods	9,747	828	411	5,297	1,510	95	1,253	353
Hard hardwoods	10,537	448	494	6,721	1,858	60	755	202
Total	20,772	1,284	933	12,395	3,414	157	2,030	558
Individual								
Pine	2,229	141	138	1,648	213	7	69	13
Other softwoods	905	146	46	422	121	13	125	33
Soft hardwoods	100,090	12,421	4,139	52,867	15,100	958	11,290	3,315
Hard hardwoods	173,750	11,023	7,842	104,194	28,634	1,272	16,413	4,371
Total	276,975	23,731	12,165	159,130	44,068	2,250	27,898	7,733
All ownerships								
Pine	5,234	170	306	4,144	496	8	92	17
Other softwoods	1,341	194	64	717	182	14	134	36
Soft hardwoods	124,686	14,342	5,196	67,107	19,064	1,145	13,827	4,006
Hard hardwoods	208,627	12,662	9,570	127,150	34,973	1,402	18,047	4,823
Total	339,888	27,368	15,135	199,118	54,714	2,570	32,100	8,882

All table cells without observations in the inventory sample are indicated by --. Cells with observations smaller than the precision reported in the table are shown as zero. Columns and rows may not add to their totals due to rounding.

Table 27. -- Area of land by land class, forest type group/local type, and Forest Survey Unit, Illinois, 1985 and 1998

(In thousand acres)

Land class and local type class	All Units		Southern Unit		Claypan Unit		Prairie Unit	
	1985	1998	1985	1998	1985	1998	1985	1998
Forest land								
Timberland								
White pine	17.1	36.1	--	2.2	2.0	6.2	15.1	27.8
Shortleaf-Virginia pine	33.6	27.0	33.6	27.0	--	--	--	--
Eastern redcedar	--	3.7	--	3.6	--	0.1	--	--
Eastern redcedar-hardwood	20.2	25.9	10.6	14.6	--	3.4	9.6	7.9
Oak-pine	23.1	17.6	21.5	12.1	--	2.1	1.6	3.4
Oak-hickory	2,138.8	2,140.1	573.4	586.1	719.9	721.7	845.5	832.4
Oak-gum-cypress	83.1	93.2	53.4	60.5	29.7	27.6	--	5.1
Elm-ash-cottonwood	832.5	906.0	189.2	222.5	310.3	320.9	333.0	362.6
Maple-beech	815.9	696.2	145.2	152.4	205.3	164.2	465.4	379.6
Cherry-ash-yellow poplar	44.5	107.1	18.3	32.0	8.7	34.5	17.5	40.6
Nonstocked	21.1	34.1	6.5	5.8	1.7	12.7	12.9	15.6
Subtotal	4,029.9	4,087.0	1,051.7	1,118.8	1,277.6	1,293.3	1,700.6	1,674.9
Reserved forest land	235.6	244.2	59.3	57.4	20.8	21.0	155.5	165.9
Other forest land	--	--	--	--	--	--	--	--
All forest land	4,265.5	4,331.3	1,111.0	1,176.2	1,298.4	1,314.3	1,856.1	1,840.8
Nonforest land								
Nonforest with trees								
Cropland with trees	53.5	113.4	7.4	44.1	16.6	41.3	29.5	28.0
Improved pasture with trees	103.6	127.1	33.4	17.3	44.3	38.4	25.9	71.4
Wooded strips	178.5	136.4	35.8	30.3	74.1	51.3	68.6	54.8
Idle farmland with trees	8.1	13.6	2.4	--	1.7	3.9	4.0	9.7
Marsh with trees	19.3	26.1	4.4	12.3	5.9	9.4	9.0	4.4
Urban and other with trees	242.3	424.5	11.3	39.4	55.4	83.0	175.6	302.1
Windbreaks	133.1	96.4	22.0	21.8	43.1	29.4	68.0	45.1
Wooded pasture	162.4	88.3	20.0	9.3	46.5	26.1	95.9	52.9
Total	900.8	1,025.8	136.7	174.4	287.6	283.0	476.5	568.4
Nonforest without trees								
Cropland	24,701.5	24,793.3	2,018.2	1,921.9	5,502.4	5,546.1	17,180.9	17,325.3
Improved pasture	2,400.8	2,036.6	309.0	293.9	762.3	646.9	1,329.5	1,095.8
Idle farmland	22.4	158.8	--	22.0	3.2	47.9	19.2	89.0
Marsh	60.1	38.7	9.3	9.1	15.5	9.1	35.3	20.5
Other farm-farmstead	574.7	539.7	63.5	56.9	167.9	151.1	343.3	331.7
Urban and other	2,621.6	2,451.6	229.2	193.6	384.7	383.8	2,007.7	1,874.2
Noncensus water	82.6	204.2	23.6	36.1	18.3	48.0	40.7	120.0
Total	30,463.7	30,223.0	2,652.8	2,533.4	6,854.3	6,833.0	20,956.6	20,856.5
All nonforest land	31,364.5	31,248.7	2,789.5	2,707.8	7,141.9	7,116.0	21,433.1	21,424.9
Total land	35,630.0	35,580.0	3,900.5	3,884.0	8,440.3	8,430.3	23,289.2	23,265.7

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Table 28. -- Area of timberland by Forest Survey Unit and county/county group, Illinois, 1985 and 1998

(In thousand acres)

Forest Survey Unit and county	1985	1998
Southern Unit		
Alexander	48.9	70.7
Franklin	67.2	55.4
Gallatin	22.4	41.5
Hamilton	36.0	37.0
Hardin	58.1	64.5
Jackson	126.0	137.7
Johnson	102.3	80.3
Massac	40.9	29.3
Perry	55.5	46.4
Pope	124.3	150.9
Pulaski	36.5	41.8
Randolph	89.1	84.4
Saline	50.3	57.7
Union	78.3	90.0
White	48.7	43.3
Williamson	67.2	87.8
Total	1,051.7	1,118.8
Claypan Unit		
Bond	36.1	40.9
Calhoun	76.1	68.2
Clark	72.3	60.0
Clay	44.2	44.4
Clinton, Washington	78.7	78.2
Crawford	59.7	53.1
Cumberland, Jasper	39.0	70.3
Edwards, Wabash	31.3	35.5
Effingham	63.4	60.4
Fayette	101.8	77.9
Greene	41.9	44.4
Jefferson	73.0	70.6
Jersey	41.4	40.0
Lawrence	35.5	29.2
Macoupin	87.1	75.5
Madison	48.2	60.0
Marion	73.2	83.2
Monroe	46.4	57.3
Montgomery	55.0	46.6
Richland	33.8	40.8
St. Clair	39.8	53.0
Shelby	43.5	40.9
Wayne	56.2	62.9
Total	1,277.6	1,293.3

(Table 28 continued on next page)

(Table 28 continued)

Forest Survey Unit and county	1985	1998
Prairie Unit		
Adams	68.4	97.6
BoDeKaMc	49.7	41.6
Brown	51.6	52.6
Bureau	50.4	39.2
Carroll, Stephenson	40.6	55.7
Cass	39.6	33.9
ChChDeFoLiMaMcMoPi	63.4	66.2
CoDoEd	39.3	51.7
CoDuLaWi	19.8	35.4
Fulton	118.3	100.3
GrKeLa	52.6	49.1
Hancock	51.7	53.9
Henderson	52.1	35.7
Henry, Stark	37.9	31.8
Iroquois, Kankakee	60.1	36.8
Jo Daviess	53.0	56.5
Knox, Warren	65.0	57.0
Lee, Whiteside	31.9	43.6
Logan, Tazewell	49.2	38.5
Marshall, Putnam	31.8	47.8
Mason, Menard	37.3	47.0
Mc Donough	51.4	39.6
Mercer	32.7	39.6
Morgan, Scott	54.0	53.9
Ogle	32.6	38.2
Peoria	38.4	51.4
Pike	161.8	115.0
Rock Island	24.7	38.2
Sangamon	43.4	40.0
Schuyler	83.6	76.3
Vermillion	42.4	42.2
Winnebago	31.8	30.1
Woodford	40.1	38.3
Total	1,700.6	1,674.9
All counties	4,029.9	4,087.0

All table cells without observations in the inventory sample are indicated by --. Cells with observations smaller than the precision reported in the table are shown as zero. Columns and rows may not add to their totals due to rounding.

FIA standards require at least 30,000 acres of forest land for a county to be reported individually. Counties with less than 30,000 acres of forest land were combined into county groupings. When more than 2 counties were combined, the group name consists of the first two letters of each county in the group.

[1] BoDeKaMc = Boone, De Kalb, Kane, Mc Henry Counties.
[2] ChChDeFoLiMaMcMoPi = Champaign, Christian, Dewitt, Ford, Livingston, Macon, Mc Lean, Moultrie, Piatt Counties.
[3] CoDoEd = Coles, Douglas, Edgar Counties.
[4] CoDuLaWi = Cook, Du Page, Lake, Will Counties.
[5] GrKeLa = Grundy, Kendall, La Salle Counties.

Table 29. -- Area of timberland by Forest Survey Unit and stand-size class, Illinois, 1985 and 1998

(In thousand acres)

Forest Survey Unit and stand-size class	1985	1998
Southern Unit		
Sawtimber	604.5	772.8
Poletimber	231.3	301.0
Sapling & seedling	209.4	39.3
Nonstocked	6.5	5.8
Total	1,051.7	1,118.8
Claypan Unit		
Sawtimber	845.2	962.4
Poletimber	221.2	274.4
Sapling & seedling	209.5	43.8
Nonstocked	1.7	12.7
Total	1,277.6	1,293.3
Prairie Unit		
Sawtimber	1,111.6	1,209.6
Poletimber	321.2	409.6
Sapling & seedling	254.9	40.1
Nonstocked	12.9	15.6
Total	1,700.6	1,674.9
All Units		
Sawtimber	2,561.3	2,944.7
Poletimber	773.7	985.0
Sapling & seedling	673.8	123.2
Nonstocked	21.1	34.1
Total	4,029.9	4,087.0

All table cells without observations in the inventory sample are indicated by --. Cells with observations smaller than the precision reported in the table are shown as zero. Columns and rows may not add to their totals due to rounding.

Table 30. -- Area of timberland by Forest Survey Unit, local type class, stand-size class, and ownership class, Illinois, 1998

(In thousand acres)

Forest Survey Unit, local type class and stand-size class	All ownerships	Ownership class						
		National forest	Other federal	State	County and municipal	Forest industry	Corporate	Individual
Southern Unit								
All types								
Sawtimber	772.8	178.1	23.4	33.4	1.5	--	75.3	461.1
Poletimber	301.0	63.7	9.4	3.5	1.5	--	22.5	200.3
Sapling & seedling	39.3	7.5	--	2.0	--	--	--	29.8
Nonstocked	5.8	--	--	--	--	--	0.2	5.6
Total	1,118.8	249.3	32.8	39.0	3.0	--	98.0	696.8
Claypan Unit								
All types								
Sawtimber	962.4	--	10.3	11.1	9.9	3.5	27.6	900.0
Poletimber	274.4	--	3.0	2.1	--	--	10.0	259.3
Sapling & seedling	43.8	--	--	--	--	--	0.5	43.3
Nonstocked	12.7	--	--	1.2	--	--	0.4	11.1
Total	1,293.3	--	13.2	14.3	9.9	3.5	38.6	1,213.7
Prairie Unit								
All types								
Sawtimber	1,209.6	--	15.4	28.2	26.6	7.6	85.1	1,046.6
Poletimber	409.6	--	--	--	3.3	--	42.6	363.7
Sapling & seedling	40.1	--	1.9	--	3.1	--	0.5	34.6
Nonstocked	15.6	--	0.4	--	--	--	--	15.2
Total	1,674.9	--	17.6	28.2	33.0	7.6	128.2	1,460.1
All Units								
All types								
Sawtimber	2,944.7	178.1	49.1	72.8	38.0	11.1	188.0	2,407.6
Poletimber	985.0	63.7	12.3	5.6	4.8	--	75.1	823.3
Sapling & seedling	123.2	7.5	1.9	2.0	3.1	--	1.0	107.7
Nonstocked	34.1	--	0.4	1.2	--	--	0.6	31.9
Total	4,087.0	249.3	63.7	81.6	45.9	11.1	264.8	3,370.6

Table 31. -- Area of timberland by forest type group/local type, stand-size class, and potential productivity class, Illinois, 1998

(In thousand acres)

Forest type group/local type and stand-size class	All classes	Potential productivity class (cubic feet of growth per acre per year)					
		225+	165-224	120-164	85-119	50-84	20-49
White pine							
Sawtimber	18.9	7.1	--	8.6	3.1	--	--
Poletimber	17.3	--	--	8.5	5.7	3.2	--
Total	36.1	7.1	--	17.1	8.8	3.2	--
Shortleaf pine							
Sawtimber	24.7	--	--	15.7	6.1	2.9	--
Poletimber	2.3	--	--	--	2.3	--	--
Total	27.0	--	--	15.7	8.4	2.9	--
Eastern redcedar							
Sawtimber	1.2	--	--	--	--	0.1	1.1
Sapling & seedling	2.5	--	--	2.5	--	--	--
Total	3.7	--	--	2.5	--	0.1	1.1
Eastern redcedar-hardwood							
Sawtimber	9.6	--	--	3.0	6.5	--	--
Poletimber	11.7	--	--	--	6.0	3.1	2.5
Sapling & seedling	4.6	--	--	--	--	--	4.6
Total	25.9	--	--	3.0	12.6	3.1	7.1
Oak-pine							
Sawtimber	12.2	--	--	11.3	--	0.8	--
Poletimber	5.4	--	--	5.0	0.4	--	--
Total	17.6	--	--	16.3	0.4	0.8	--
Chestnut-scarlet oak							
Sawtimber	187.6	2.7	5.1	11.1	54.9	81.3	32.5
Poletimber	32.3	--	--	--	16.8	12.1	3.4
Sapling & seedling	2.0	--	--	--	--	2.0	--
Total	221.9	2.7	5.1	11.1	71.7	95.3	35.9
White oak-red oak-hickory							
Sawtimber	1,468.8	23.6	11.4	148.8	402.7	548.9	333.4
Poletimber	400.0	10.9	1.4	52.9	150.2	118.9	65.6
Sapling & seedling	49.4	--	--	11.2	13.9	20.5	3.9
Total	1,918.2	34.5	12.9	212.9	566.8	688.2	403.0
Oak-gum-cypress							
Sawtimber	68.9	--	14.2	7.1	28.6	17.6	1.4
Poletimber	24.3	--	--	7.3	14.0	3.0	--
Total	93.2	--	14.2	14.4	42.5	20.6	1.4
Elm-ash-soft maple							
Sawtimber	644.9	4.0	0.8	182.3	193.3	189.5	74.8
Poletimber	240.8	--	--	46.3	96.7	76.4	21.3
Sapling & seedling	20.4	--	--	5.9	5.9	3.7	5.0
Total	906.0	4.0	0.8	234.5	295.9	269.7	101.1
Maple-beech							
Sawtimber	508.1	2.8	3.6	73.9	172.0	181.5	74.3
Poletimber	250.9	--	2.1	49.1	96.8	58.8	44.2
Sapling & seedling	44.3	--	--	9.7	17.2	8.7	8.7
Total	803.3	2.8	5.7	132.7	286.0	249.0	127.2
Nonstocked	34.1	0.7	1.0	2.3	9.6	7.5	13.2
All forest types							
Sawtimber	2,944.7	40.3	35.2	461.9	37.0	1,022.5	517.6
Poletimber	985.0	10.9	3.5	169.1	388.9	275.5	137.1
Sapling & seedling	123.2	--	--	29.3	37.0	34.8	22.2
Nonstocked	34.1	0.7	1.0	2.3	9.6	7.5	13.2
Total	4,087.0	51.8	39.7	662.5	1,302.7	1,340.3	689.9

All table cells without observations in the inventory sample are indicated by --. Cells with observations smaller than the precision reported in the table are shown as zero. Columns and rows may not add to their totals due to rounding.

Table 32. -- Area of timberland by forest type group/local type, stand-size class, and basal-area class, Illinois, 1998

(In thousand acres)

Forest type group/local type, and stand-size class	All classes	Basal-area class (square feet per acre)													
		0-10	11-20	21-30	31-40	41-50	51-60	61-70	71-80	81-90	91-100	101-120	121-150	151-180	181+
White pine															
Sawtimber	18.9	--	2.6	2.1	--	--	--	--	--	--	0.7	2.2	10.7	0.7	--
Poletimber	17.3	--	--	--	--	--	--	--	--	0.5	6.0	--	5.7	5.0	--
Total	36.1	--	2.6	2.1	--	--	--	--	--	0.5	6.6	2.2	16.4	5.7	--
Shortleaf pine															
Sawtimber	24.7	0.7	--	--	--	--	--	--	--	5.6	--	4.3	6.5	4.4	3.2
Poletimber	2.3	--	--	--	--	--	--	--	--	--	--	2.3	--	--	--
Total	27.0	0.7	--	--	--	--	--	--	--	5.6	--	6.6	6.5	4.4	3.2
Eastern redcedar															
Sawtimber	1.2	--	--	--	--	--	--	--	--	--	--	1.1	--	--	0.1
Sapling & seedling	2.5	--	--	--	--	2.5	--	--	--	--	--	--	--	--	--
Total	3.7	--	--	--	--	2.5	--	--	--	--	--	1.1	--	--	0.1
Eastern redcedar-hardwood															
Sawtimber	9.6	2.0	--	2.7	--	--	--	1.3	3.0	0.6	--	--	--	--	--
Poletimber	11.7	--	3.1	2.3	3.7	--	--	--	--	2.5	--	--	--	--	--
Sapling & seedling	4.6	--	2.8	--	--	1.9	--	--	--	--	--	--	--	--	--
Total	25.9	2.0	5.9	5.0	3.7	1.9	--	1.3	3.0	3.1	--	--	--	--	--
Oak-pine															
Sawtimber	12.2	2.1	0.8	--	0.7	--	--	--	--	--	4.6	--	1.4	2.5	--
Poletimber	5.4	--	--	--	--	--	--	2.5	--	--	--	2.9	--	--	--
Total	17.6	2.1	0.8	--	0.7	--	--	2.5	--	--	4.6	2.9	1.4	2.5	--
Chestnut-scarlet oak															
Sawtimber	187.6	9.2	5.5	--	--	7.2	20.1	13.5	11.2	40.6	30.0	24.1	13.3	13.0	--
Poletimber	32.3	--	--	5.6	4.5	--	8.1	--	7.8	6.3	--	--	--	--	--
Sapling & seedling	2.0	2.0	--	--	--	--	--	--	--	--	--	--	--	--	--
Total	221.9	11.1	5.5	5.6	4.5	7.2	28.1	13.5	18.9	46.9	30.0	24.1	13.3	13.0	--
White oak-red oak-hickory															
Sawtimber	1,468.8	37.8	12.5	25.8	30.1	53.4	92.3	150.7	216.1	166.1	221.1	280.8	131.3	25.0	26.0
Poletimber	400.0	3.4	4.3	11.9	31.2	35.2	79.7	63.8	48.0	53.2	17.0	47.5	4.8	--	--
Sapling & seedling	49.4	0.7	8.0	10.8	12.8	3.1	5.0	6.6	2.0	0.5	--	--	--	--	--
Total	1,918.2	41.8	24.8	48.5	74.1	91.7	176.9	221.1	266.1	219.9	238.1	328.2	136.1	25.0	26.0
Oak-gum-cypress															
Sawtimber	68.9	2.7	1.6	--	2.2	6.6	6.4	6.9	--	8.6	6.6	6.3	14.3	1.6	5.0
Poletimber	24.3	--	--	--	--	3.0	--	--	2.0	14.0	--	1.3	3.9	--	0.2
Total	93.2	2.7	1.6	--	2.2	9.6	6.4	6.9	2.0	22.6	6.6	7.5	18.2	1.6	5.2
Elm-ash-soft maple															
Sawtimber	644.9	34.5	14.7	16.4	24.7	40.0	42.7	39.1	47.3	64.8	47.3	131.2	52.2	49.2	40.9
Poletimber	240.8	--	5.1	15.4	14.2	34.3	21.1	20.2	27.1	29.0	18.1	44.8	9.4	1.8	0.3
Sapling & seedling	20.4	0.2	6.4	7.7	1.9	--	2.7	--	--	1.4	--	--	--	--	--
Total	906.0	34.7	26.2	39.5	40.8	74.3	66.4	59.3	74.4	95.2	65.5	176.0	61.6	51.0	41.2

(Table 32 continued on next page)

(Table 32 continued)

Forest type group/local type and stand-size class	All classes	Basal-area class (square feet per acre)													
		0-10	11-20	21-30	31-40	41-50	51-60	61-70	71-80	81-90	91-100	101-120	121-150	151-180	181+
Maple-beech															
Sawtimber	508.1	31.1	39.1	25.4	25.9	21.0	41.7	20.8	55.7	86.9	51.9	64.4	28.6	10.7	4.9
Poletimber	250.9	--	2.7	24.0	31.9	29.1	55.2	24.4	34.2	25.4	12.2	7.4	3.8	0.6	--
Sapling & seedling	44.3	3.6	12.1	6.9	5.3	3.2	--	2.2	9.0	2.0	--	--	--	--	--
Total	803.3	34.7	53.9	56.3	63.1	53.2	96.9	47.4	98.9	114.3	64.1	71.9	32.4	11.3	4.9
Nonstocked	34.1	34.1	--	--	--	--	--	--	--	--	--	--	--	--	--
All forest types															
Sawtimber	2,944.7	120.0	76.8	72.3	83.6	128.2	203.2	232.3	333.3	373.3	362.1	514.3	258.2	107.1	80.0
Poletimber	985.0	3.4	15.3	59.2	85.5	101.5	164.0	111.0	119.0	131.0	53.3	106.2	27.5	7.4	0.5
Sapling & seedling	123.2	6.5	29.3	25.5	20.0	10.6	7.6	8.8	11.0	3.9	--	--	--	--	--
Nonstocked	34.1	34.1	--	--	--	--	--	--	--	--	--	--	--	--	--
Total	4,087.0	164.0	121.4	157.1	189.0	240.4	374.9	352.0	463.3	508.2	415.4	620.5	285.8	114.5	80.6

All table cells without observations in the inventory sample are indicated by --. Cells with observations smaller than the precision reported in the table are shown as zero. Columns and rows may not add to their totals due to rounding.

Table 33. -- Net volume of growing stock on timberland by species group and Forest Survey Unit, Illinois, 1985 and 1998

(In thousand cubic feet)

	Forest Survey Unit							
	All Units		Southern Unit		Claypan Unit		Prairie Unit	
Species group	1985	1998	1985	1998	1985	1998	1985	1998
Softwoods								
Jack pine	726	2,444	--	--	726	1,869	--	575
Red pine	12,567	17,133	--	--	--	29	12,567	17,103
White pine	18,410	50,375	622	8,219	144	2,797	17,644	39,358
Loblolly pine	741	3,164	741	3,164	--	--	--	--
Shortleaf pine	60,704	65,326	60,215	63,543	488	1,427	--	356
White spruce	--	1,042	--	--	--	--	--	1,042
Baldcypress	7,528	8,284	7,528	8,284	--	--	--	--
Eastern redcedar	8,363	17,158	3,675	10,058	523	2,872	4,165	4,227
Other softwoods	2,043	3,930	684	968	--	374	1,360	2,589
Total softwoods	111,082	168,856	73,467	94,238	1,881	9,368	35,735	65,251
Hardwoods								
Select white oak	838,127	985,433	153,122	227,043	275,237	305,007	409,769	453,383
Other white oak	122,080	137,749	51,698	71,470	65,871	62,341	4,511	3,939
Select red oak	327,952	374,756	69,633	84,215	93,667	107,708	164,652	182,833
Other red oak	732,839	908,252	223,023	285,589	265,987	341,938	243,829	280,724
Select hickory	289,943	380,382	72,013	105,456	119,060	152,685	98,870	122,241
Other hickory	219,257	267,097	92,629	125,179	79,685	88,754	46,943	53,165
Basswood	56,211	71,413	655	1,774	8,324	7,597	47,231	62,042
Beech	13,114	14,866	12,951	14,866	163	--	--	--
Hard maple	167,667	206,723	47,425	69,309	34,879	52,616	85,364	84,798
Soft maple	336,063	519,662	66,704	105,208	114,243	185,528	155,116	228,926
Elm	229,062	236,227	43,958	45,020	65,508	66,243	119,596	124,964
Black ash	2,772	2,772	167	493	221	143	2,385	2,135
White & green ash	261,432	307,848	74,185	93,814	111,489	113,958	75,757	100,077
Sycamore	146,559	188,939	56,339	56,948	62,076	92,609	28,144	39,382
Cottonwood	169,876	229,182	31,222	52,170	43,771	62,598	94,883	114,414
Willow	48,022	76,542	13,855	16,695	5,706	20,277	28,461	39,570
Hackberry	93,662	142,502	10,128	12,138	40,200	72,019	43,333	58,344
Balsam poplar	--	364	--	364	--	--	--	--
Bigtooth aspen	354	2,274	--	--	--	--	354	2,274
Quaking aspen	1,524	1,747	--	--	--	100	1,524	1,646
Paper birch	--	43	--	--	--	43	--	--
River birch	33,855	33,717	15,516	15,637	11,607	13,844	6,732	4,235
Sweetgum	45,511	74,732	38,027	67,227	7,483	7,329	--	176
Tupelo	27,110	21,783	26,659	21,085	451	415	--	283
Black cherry	75,307	106,613	7,535	11,372	25,232	30,651	42,540	64,590
Black walnut	106,808	158,388	9,249	16,011	40,603	47,415	56,956	94,962
Butternut	3,992	4,300	679	473	1,230	1,222	2,084	2,605
Yellow-poplar	61,503	81,708	48,925	73,835	11,304	7,353	1,273	520
Other hardwoods	206,257	237,985	51,143	42,134	65,659	82,092	89,455	113,760
Total hardwoods	4,616,858	5,773,998	1,217,440	1,615,526	1,549,657	1,922,484	1,849,760	2,235,988
All species	4,728,395	5,942,855	1,290,907	1,709,763	1,551,699	1,931,852	1,885,789	2,301,239

All table cells without observations in the inventory sample are indicated by --. Cells with observations smaller than the precision reported in the table are shown as zero. Columns and rows may not add to their totals due to rounding.

Table 34. -- Net volume of sawtimber (International 1/4 inch rule) on timberland by species group and Forest Survey Unit, Illinois, 1985 and 1998

(In thousand board feet) [1]

	Forest Survey Unit							
	All Units		Southern Unit		Claypan Unit		Prairie Unit	
Species group	1985	1998	1985	1998	1985	1998	1985	1998
Softwoods								
Jack pine	--	1,188	--	--	--	1,188	--	--
Red pine	18,285	34,629	--	--	--	--	18,285	34,629
White pine	59,084	186,012	--	24,466	701	9,557	58,383	151,989
Loblolly pine	2,294	15,493	2,294	15,493	--	--	--	--
Shortleaf pine	160,560	259,222	160,560	256,504	--	1,834	--	884
White spruce	--	3,085	--	--	--	--	--	3,085
Baldcypress	37,568	41,845	37,568	41,845	--	--	--	--
Eastern redcedar	15,901	45,882	8,896	25,041	1,059	10,509	5,946	10,333
Other softwoods	2,426	3,006	--	2,319	--	--	2,426	687
Total softwoods	296,118	590,362	209,318	365,667	1,760	23,088	85,039	201,606
Hardwoods								
Select white oak	3,293,071	4,044,760	575,012	894,729	1,079,902	1,260,236	1,638,158	1,889,795
Other white oak	434,162	556,571	184,341	293,609	238,155	249,514	11,666	13,448
Select red oak	1,391,268	1,681,730	284,801	369,236	396,738	487,654	709,728	824,841
Other red oak	2,898,983	3,771,630	910,091	1,189,755	1,054,849	1,446,990	934,044	1,134,884
Select hickory	890,406	1,258,662	239,234	373,165	334,846	471,155	316,325	414,342
Other hickory	604,095	889,697	262,017	440,635	222,275	290,786	119,803	158,276
Basswood	212,289	275,981	966	8,766	39,163	33,427	172,161	233,787
Beech	58,510	69,288	58,510	69,288	--	--	--	--
Hard maple	530,049	670,310	130,883	209,119	102,359	155,844	296,807	305,347
Soft maple	1,093,982	1,843,918	201,692	340,767	372,714	656,569	519,576	846,581
Elm	402,808	473,980	70,134	85,952	140,063	144,848	192,611	243,180
Black ash	4,882	7,555	--	--	--	--	4,882	7,555
White & green ash	750,225	998,687	219,190	273,493	327,507	384,273	203,529	340,921
Sycamore	605,738	791,243	236,734	233,051	261,778	391,395	107,226	166,798
Cottonwood	758,273	1,048,943	115,640	241,969	204,603	283,559	438,029	523,415
Willow	147,108	231,357	50,183	61,218	19,078	52,014	77,847	118,125
Hackberry	255,636	423,896	26,651	37,337	99,711	208,381	129,274	178,179
Balsam poplar	--	731	--	731	--	--	--	--
Bigtooth aspen	1,780	9,921	--	--	--	--	1,780	9,921
Quaking aspen	--	3,500	--	--	--	--	--	3,500
River birch	96,391	106,282	34,807	46,511	42,295	43,539	19,289	16,233
Sweetgum	141,554	250,447	113,921	223,821	27,633	26,626	--	--
Tupelo	83,884	62,885	82,577	60,713	1,308	1,011	--	1,161
Black cherry	184,389	296,706	18,149	26,593	54,670	94,246	111,569	175,866
Black walnut	322,049	534,581	22,958	47,432	122,098	159,597	176,993	327,552
Butternut	5,484	9,186	948	--	1,371	3,718	3,165	5,468
Yellow-poplar	267,935	370,244	204,945	329,566	56,482	38,296	6,509	2,383
Other hardwoods	483,128	602,180	99,968	61,995	150,179	197,587	232,981	342,598
Total hardwoods	15,918,080	21,284,873	4,144,350	5,919,452	5,349,777	7,081,265	6,423,954	8,284,156
All species	16,215,569	21,875,235	4,353,668	6,285,119	5,351,537	7,104,353	6,510,364	8,485,762

All table cells without observations in the inventory sample are indicated by --. Cells with observations smaller than the precision reported in the table are shown as zero. Columns and rows may not add to their totals due to rounding.

[1] International 1/4 inch rule.

Table 34A. -- Net volume of sawtimber (Doyle rule) on timberland by species group and Forest Survey Unit, Illinois, 1985 and 1998

(In thousand board feet) [1]

	Forest Survey Unit							
	All Units		Southern Unit		Claypan Unit		Prairie Unit	
Species group	1985	1998	1985	1998	1985	1998	1985	1998
Softwoods								
Jack pine	--	411	--	--	--	411	--	--
Red pine	6,493	13,272	--	--	--	--	6,493	13,272
White pine	34,608	97,016	--	12,057	335	4,847	34,272	80,112
Loblolly pine	1,308	11,238	1,308	11,238	--	--	--	--
Shortleaf pine	84,516	138,108	84,516	137,169	--	634	--	305
White spruce	--	1,562	--	--	--	--	--	1,562
Baldcypress	35,852	40,256	35,852	40,256	--	--	--	--
Eastern redcedar	8,302	20,410	4,794	11,402	366	4,483	3,142	4,524
Other softwoods	910	1,038	--	801	--	--	910	237
Total softwoods	171,990	323,311	126,471	212,923	701	10,374	44,818	100,014
Hardwoods								
Select white oak	2,298,407	2,856,857	366,418	590,070	714,654	871,376	1,217,335	1,395,412
Other white oak	259,403	360,584	108,497	182,299	144,132	169,378	6,773	8,907
Select red oak	1,016,127	1,205,796	193,534	242,234	282,942	362,708	539,651	600,854
Other red oak	1,915,985	2,627,303	600,956	858,040	679,659	984,948	635,370	784,315
Select hickory	517,058	769,573	136,337	217,067	195,474	290,605	185,247	261,901
Other hickory	343,339	504,689	148,487	250,979	127,241	165,281	67,610	88,429
Basswood	136,941	182,584	757	6,010	23,735	19,970	112,449	156,604
Beech	44,748	49,029	44,748	49,029	--	--	--	--
Hard maple	342,382	414,483	76,223	123,549	65,078	97,126	201,080	193,809
Soft maple	752,621	1,345,376	131,422	211,552	251,993	479,253	369,206	654,571
Elm	224,729	258,866	40,628	48,699	77,332	79,188	106,770	130,979
Black ash	3,093	3,867	--	--	--	--	3,093	3,867
White & green ash	451,218	606,257	127,103	161,311	197,562	231,290	126,553	213,656
Sycamore	453,541	644,322	170,140	183,575	190,784	312,143	92,617	148,604
Cottonwood	608,111	876,691	95,069	176,996	156,387	250,986	356,656	448,709
Willow	89,005	142,131	33,583	38,426	10,694	32,416	44,728	71,289
Hackberry	161,179	273,679	16,493	22,879	58,786	131,686	85,899	119,114
Balsam poplar	--	305	--	305	--	--	--	--
Bigtooth aspen	1,047	6,011	--	--	--	--	1,047	6,011
Quaking aspen	--	1,460	--	--	--	--	--	1,460
River birch	58,347	62,410	18,771	25,241	27,031	26,237	12,545	10,932
Sweetgum	82,679	148,295	63,328	129,995	19,351	18,300	--	--
Tupelo	55,922	44,189	55,153	43,282	769	422	--	484
Black cherry	109,963	168,580	10,378	14,150	32,585	49,592	67,000	104,839
Black walnut	178,916	309,320	12,613	26,532	66,933	88,146	99,370	194,642
Butternut	2,796	4,595	485	--	572	1,680	1,739	2,915
Yellow-poplar	175,662	254,896	136,328	227,411	35,229	26,265	4,105	1,219
Other hardwoods	284,714	346,560	55,482	33,137	91,682	111,476	137,549	201,947
Total hardwoods	10,567,934	14,468,709	2,642,935	3,862,767	3,450,605	4,800,472	4,474,394	5,805,470
All species	10,740,625	14,792,020	2,769,406	4,075,691	3,451,306	4,810,846	4,519,914	5,905,484

All table cells without observations in the inventory sample are indicated by --. Cells with observations smaller than the precision reported in the table are shown as zero. Columns and rows may not add to their totals due to rounding.

[1] Doyle rule.

Table 35. -- Net volume of all live trees[1] greater than 5 inches in diameter at breast height on timberland by species group and diameter class, Illinois, 1998

(In thousand cubic feet)

Species group	All classes	Diameter class (inches at breast height)									
		5.0-6.9	7.0-8.9	9.0-10.9	11.0-12.9	13.0-14.9	15.0-16.9	17.0-18.9	19.0-20.9	21.0-28.9	29.0+
Softwoods											
Jack pine	2,714	374	1,848	492	--	--	--	--	--	--	--
Red pine	17,487	2,404	7,748	5,286	2,049	--	--	--	--	--	--
White pine	50,882	2,072	8,513	14,164	8,864	6,818	7,347	1,242	1,232	631	--
Loblolly pine	3,164	57	102	280	446	393	--	--	1,886	--	--
Shortleaf pine	65,910	3,738	10,882	16,608	12,064	10,861	6,489	1,333	1,224	2,712	--
White spruce	1,074	327	83	119	263	283	--	--	--	--	--
Baldcypress	8,284	49	--	--	--	--	504	705	392	3,899	2,735
Eastern redcedar	21,810	4,056	5,490	5,893	2,502	2,173	785	--	912	--	--
Other softwoods	5,000	1,361	2,701	758	180	--	--	--	--	--	--
Total softwoods	176,326	14,439	37,365	43,600	26,368	20,528	15,125	3,280	5,645	7,241	2,735
Hardwoods											
Select white oak	1,091,648	13,875	30,791	52,621	79,386	103,519	133,569	130,089	113,459	289,975	144,365
Other white oak	150,357	2,632	7,920	14,358	19,163	21,519	20,588	10,091	15,105	30,610	8,371
Select red oak	397,398	4,216	11,786	10,681	30,871	40,691	39,015	44,405	54,675	127,975	33,085
Other red oak	965,604	19,994	37,727	63,803	87,783	110,341	116,581	114,614	102,290	212,005	100,468
Select hickory	397,543	23,100	39,103	63,236	55,177	57,256	50,109	30,346	28,373	45,483	5,360
Other hickory	276,569	18,911	32,990	40,765	48,541	43,163	30,807	31,062	15,390	14,940	--
Basswood	79,289	4,177	4,156	8,807	9,525	9,102	10,695	5,572	13,446	7,886	5,922
Beech	19,556	135	236	369	863	3,224	1,822	871	3,590	6,994	1,452
Hard maple	240,733	17,805	25,944	27,353	27,355	27,662	30,050	27,783	10,881	40,576	5,324
Soft maple	590,099	17,545	35,457	46,527	50,675	68,103	65,144	58,836	52,976	109,575	85,262
Elm	285,333	43,726	59,572	55,423	39,587	28,003	28,338	14,460	7,739	7,811	673
Black ash	3,371	418	471	386	--	1,634	461	--	--	--	--
White & green ash	347,353	20,858	35,282	47,267	49,176	48,659	37,198	38,285	28,695	37,771	4,162
Sycamore	199,820	3,492	5,560	10,019	9,654	12,300	17,024	12,208	18,671	61,636	49,256
Cottonwood	246,112	1,733	4,216	8,534	12,842	18,036	14,416	15,891	23,767	63,555	83,122
Willow	93,174	5,333	11,871	11,673	13,596	9,646	8,847	9,260	4,625	16,591	1,732
Hackberry	160,010	12,924	18,495	20,630	21,409	15,442	13,113	13,239	15,853	21,022	7,883
Balsam poplar	382	18	68	142	154	--	--	--	--	--	--
Bigtooth aspen	2,274	114	--	206	--	675	--	1,279	--	--	--
Quaking aspen	1,747	--	421	580	746	--	--	--	--	--	--
Paper birch	43	43	--	--	--	--	--	--	--	--	--
River birch	36,519	2,129	5,027	3,616	5,000	7,479	4,125	3,177	2,336	2,857	772
Sweetgum	75,556	5,529	7,576	6,420	10,078	12,422	12,559	8,681	6,192	5,783	315
Tupelo	23,030	1,780	2,579	3,033	3,208	4,308	1,109	563	399	1,694	4,355
Black cherry	135,689	15,004	22,332	19,820	23,478	20,121	8,508	12,280	6,717	6,941	488
Black walnut	180,237	7,822	18,251	24,971	27,430	34,596	25,443	15,096	9,970	12,449	4,209
Butternut	5,065	566	269	1,533	904	635	820	336	--	--	--
Yellow-poplar	83,374	2,055	4,291	4,783	8,526	8,832	6,739	18,591	9,986	11,544	8,026
Other hardwoods	355,156	44,426	50,592	57,913	48,045	45,508	32,976	24,311	23,440	23,160	4,784
Total hardwoods	6,443,039	290,363	472,982	605,469	683,172	752,876	710,055	641,325	568,577	1,158,837	559,386
Noncommercial species	80,939	17,608	16,413	12,860	8,318	7,846	5,495	3,815	4,407	4,178	--
All species	6,700,304	304,802	510,346	649,069	709,540	773,404	725,180	644,604	574,222	1,166,078	562,121

All table cells without observations in the inventory sample are indicated by --. Cells with observations smaller than the precision reported in the table are shown as zero. Columns and rows may not add to their totals due to rounding.

[1] Net volume of all live trees 5 inches d.b.h. and larger from a 1-foot stump to a 4-inch top diameter outside bark.

Table 36. -- Net volume (International 1/4 inch rule) of tree species on timberland by individual tree species and major tree class, Illinois, 1998

Individual species	All live	Major tree class						
		All live trees				Saw-log size trees		
		Growing stock	Short-log	Rough	Rotten	Total saw-log size trees	Sawtimber	Short-log
		(In thousand cubic feet)				(In thousand board feet) [1]		
Softwoods								
Eastern redcedar	63,330	49,543	1,221	12,146	420	125,633	120,276	5,357
Tamarack	413	413	--	--	--	--	--	--
White spruce	88	88	--	--	--	--	--	--
Jack pine	5,473	5,050	270	153	--	19,816	18,765	1,050
Shortleaf pine	40,112	39,112	302	610	89	162,210	160,903	1,308
Red pine	12,037	12,037	--	--	--	36,417	36,417	--
Eastern white pine	74,411	72,958	--	1,452	--	296,188	296,188	--
Scotch pine	5,197	4,993	--	205	--	9,895	9,895	--
Virginia pine	92,522	90,051	1,361	892	217	351,457	346,543	4,914
Baldcypress	3,581	3,538	--	43	--	15,649	15,649	--
Total softwoods	297,164	277,782	3,154	15,501	727	1,017,265	1,004,636	12,629
Hardwoods								
Boxelder	44,044	17,132	2,134	19,481	5,297	44,103	38,071	6,032
Black maple	6,281	4,676	--	504	1,100	13,505	13,505	--
Red maple	263,880	207,872	18,160	29,007	8,842	635,138	589,601	45,537
Silver maple	183,333	138,636	18,319	20,291	6,087	529,070	482,559	46,511
Sugar maple	761,219	660,778	24,882	49,455	26,104	2,265,237	2,204,176	61,060
Ohio buckeye	13,677	9,059	833	1,913	1,873	27,427	25,089	2,338
River birch	23,511	22,311	498	510	192	45,392	44,000	1,392
Paper birch	237	237	--	--	--	1,099	1,099	--
Gray birch	25	25	--	--	--	--	--	--
Water hickory	848	848	--	--	--	4,243	4,243	--
Bitternut hickory	176,339	164,980	4,924	5,601	835	656,925	642,877	14,049
Pignut hickory	264,769	253,112	5,430	4,245	1,982	1,005,816	990,415	15,401
Pecan	2,039	1,764	--	275	--	7,001	7,001	--
Shellbark hickory	6,617	6,617	--	--	--	29,194	29,194	--
Shagbark hickory	259,675	243,970	6,544	8,399	761	871,461	855,283	16,179
Mockernut hickory	39,714	37,910	719	811	275	147,702	145,543	2,158
American chestnut	157	--	--	82	75	--	--	--
Northern catalpa	8,846	2,955	664	2,438	2,790	13,999	12,199	1,799
Hackberry	93,627	79,780	4,198	8,577	1,072	255,736	243,972	11,765
Flowering dogwood	7,755	3,490	--	4,063	201	--	--	--
Common persimmon	15,103	13,178	--	1,625	300	13,436	13,436	--
American beech	253,840	161,528	7,340	31,727	53,246	685,480	665,713	19,767
White ash	442,490	391,565	18,175	30,638	2,112	1,476,197	1,425,118	51,078
Black ash	3,628	2,893	--	42	693	4,463	4,463	--
Green ash	106,324	95,098	1,418	7,915	1,893	315,333	310,928	4,405
Blue ash	5,683	4,759	--	924	--	14,096	14,096	--
Honeylocust	43,506	34,134	762	7,482	1,128	107,450	105,291	2,159
Kentucky coffeetree	2,223	2,076	--	117	30	5,626	5,626	--
Butternut	3,576	2,390	--	896	290	8,139	8,139	--
Black walnut	197,950	174,129	5,913	13,867	4,043	660,418	639,339	21,079
Sweetgum	87,204	84,591	835	1,317	461	274,560	272,332	2,228
Yellow-poplar	766,566	747,060	4,110	7,352	8,044	3,369,824	3,359,811	10,014
White mulberry	564	200	--	364	--	--	--	--
Red mulberry	10,236	1,240	--	6,636	2,360	--	--	--
Water tupelo	100	100	--	--	--	--	--	--
Blackgum	56,898	50,649	1,201	4,171	877	143,557	140,149	3,408
Swamp tupelo	1,069	1,069	--	--	--	4,783	4,783	--
Sycamore	342,600	313,785	6,096	12,084	10,635	1,332,992	1,318,720	14,272
Eastern cottonwood	184,011	178,932	748	2,606	1,725	849,828	847,993	1,835
Bigtooth aspen	36,857	36,282	--	575	--	146,064	146,064	--
Swamp cottonwood	279	279	--	--	--	1,322	1,322	--
Quaking aspen	3,684	3,613	--	71	--	8,643	8,643	--

(Table 36 continued on next page)

(Table 36 continued)

Individual species	All live	Major tree class: All live trees: Growing stock	All live trees: Short-log	All live trees: Rough	All live trees: Rotten	Saw-log size trees: Total saw-log size trees	Saw-log size trees: Sawtimber	Saw-log size trees: Short-log
Hardwoods			(In thousand cubic feet)				(In thousand board feet) [1]	
Black cherry	135,689	106,613	4,393	22,570	2,113	308,658	296,706	11,953
White oak	865,619	793,173	41,552	20,630	10,263	3,337,914	3,249,474	88,440
Swamp white oak	27,816	27,395	--	225	196	112,418	112,418	--
Scarlet oak	6,601	6,268	--	--	333	30,413	30,413	--
Northern pin oak	15,773	14,995	--	778	--	59,070	59,070	--
Southern red oak	25,773	24,754	423	--	597	112,108	111,266	842
Cherrybark;swamp red oak	11,137	11,137	--	--	--	46,173	46,173	--
Shingle oak	137,349	121,453	8,578	5,798	1,520	454,535	432,596	21,939
Overcup oak	14,616	12,390	592	37	1,596	59,854	58,055	1,800
Bur oak	152,573	126,989	9,033	15,768	783	554,888	532,624	22,264
Blackjack oak	7,231	6,547	154	325	205	17,906	17,507	399
Swamp chestnut oak	6,315	6,315	--	--	--	26,460	26,460	--
Chinkapin oak	39,325	31,560	1,506	5,538	721	128,400	123,785	4,616
Pin oak	171,053	167,551	--	1,417	2,085	713,020	713,020	--
Willow oak	675	675	--	--	--	3,150	3,150	--
Chestnut oak	2,867	1,024	1,843	--	--	8,958	4,742	4,215
Northern red oak	380,989	358,347	8,856	6,850	6,936	1,632,776	1,611,098	21,677
Shumard oak	5,271	5,271	--	--	--	24,459	24,459	--
Post oak	132,874	124,334	3,432	2,252	2,855	502,324	493,774	8,550
Black oak	601,150	566,010	13,111	14,132	7,897	2,437,535	2,404,609	32,927
Black locust	50,109	39,812	1,176	5,219	3,902	114,549	111,548	3,000
Black willow	93,174	76,542	2,543	10,929	3,160	237,584	231,357	6,227
Sassafras	44,575	33,595	462	6,813	3,705	43,849	42,505	1,345
American basswood	79,289	71,413	3,618	2,452	1,806	285,909	275,981	9,929
Winged elm	4,416	4,185	--	231	--	2,914	2,914	--
American elm	201,874	163,168	9,355	27,663	1,688	359,486	329,030	30,456
Siberian elm	1,193	383	--	810	--	1,486	1,486	--
Slippery elm	77,501	68,141	1,741	7,013	606	145,991	140,550	5,441
Rock elm	350	350	--	--	--	--	--	--
Total hardwoods	6,443,039	5,773,998	214,255	328,522	126,263	21,824,871	21,284,873	539,998
Total commercial species	6,618,973	5,942,855	216,082	333,763	126,665	22,421,948	21,875,235	546,713
Noncommercial species	80,875	--	--	79,260	1,615	--	--	--
Total all species	6,700,240	5,942,855	216,082	413,023	128,280	22,421,948	21,875,235	546,713

All table cells without observations in the inventory sample are indicated by --. Cells with observations smaller than the precision reported in the table are shown as zero. Columns and rows may not add to their totals due to rounding.

[1] International 1/4 inch rule.

Table 36A. -- Net volume (Doyle rule) of tree species on timberland by individual tree species and major tree class, Illinois, 1998

Individual species	All live	Major tree class: All live trees: Growing stock	All live trees: Short-log	All live trees: Rough	All live trees: Rotten	Saw-log size trees: Total saw-log size trees	Saw-log size trees: Sawtimber	Saw-log size trees: Short-log
			(In thousand cubic feet)				(In thousand board feet) [1]	
Softwoods								
Eastern redcedar	21,810	17,158	1,521	2,729	402	23,788	20,410	3,378
White spruce	1,074	1,042	--	32	--	1,562	1,562	--
Blue spruce	180	180	--	--	--	--	--	--
Jack pine	2,714	2,444	--	270	--	411	411	--
Shortleaf pine	65,910	65,326	--	584	--	138,108	138,108	--
Red pine	17,487	17,133	--	354	--	13,272	13,272	--
Eastern white pine	50,882	50,375	126	382	--	97,191	97,016	175
Scotch pine	4,820	3,750	180	890	--	1,383	1,038	344
Loblolly pine	3,164	3,164	--	--	--	11,238	11,238	--
Baldcypress	8,284	8,284	--	--	--	40,256	40,256	--
Total softwoods	176,326	168,856	1,827	5,241	402	327,208	323,311	3,897
Hardwoods								
Boxelder	98,399	47,624	6,560	27,696	16,518	78,812	68,055	10,757
Black maple	732	732	--	--	--	794	794	--
Red maple	145,676	130,054	6,233	6,723	2,667	296,802	285,497	11,306
Silver maple	444,423	389,609	24,276	21,039	9,500	1,104,879	1,059,879	44,999
Sugar maple	240,001	205,991	7,743	16,833	9,434	426,279	413,689	12,589
Ohio buckeye	1,669	333	425	483	428	622	--	622
River birch	36,519	33,717	1,186	791	825	64,697	62,410	2,287
Paper birch	43	43	--	--	--	--	--	--
Water hickory	1,253	1,253	--	--	--	1,802	1,802	--
Bitternut hickory	82,452	79,260	424	2,338	430	141,273	140,502	771
Pignut hickory	191,895	185,615	1,154	3,658	1,468	363,832	361,765	2,067
Pecan	12,701	12,016	--	686	--	28,891	28,891	--
Shellbark hickory	8,988	8,786	--	202	--	22,353	22,353	--
Shagbark hickory	247,465	236,552	3,882	5,998	1,033	495,691	489,732	5,958
Black hickory	969	969	--	--	--	620	620	--
Mockernut hickory	128,389	123,028	1,398	2,636	1,326	230,876	228,596	2,280
American chestnut	59	32	--	26	--	--	--	--
Northern catalpa	1,255	527	184	341	202	1,671	1,401	271
Sugarberry	5,164	4,404	--	663	97	5,482	5,482	--
Hackberry	160,010	142,502	6,619	9,692	1,196	288,126	273,679	14,447
Yellowwood cladrastis	72	--	--	--	72	--	--	--
Flowering dogwood	4,097	1,768	--	2,113	215	--	--	--
Common persimmon	18,111	16,121	479	1,420	91	7,108	6,347	762
American beech	19,556	14,866	631	761	3,297	50,251	49,029	1,222
White ash	184,803	163,845	5,343	10,721	4,895	353,036	342,975	10,061
Black ash	2,242	1,643	461	138	--	2,054	1,208	846
Green ash	162,550	144,003	5,506	8,906	4,135	273,807	263,282	10,525
Pumpkin ash	1,598	1,518	--	80	--	2,567	2,567	--
Blue ash	1,129	1,129	--	--	--	2,659	2,659	--
Honeylocust	101,228	83,347	4,286	11,380	2,216	181,740	174,772	6,969
Kentucky coffeetree	2,199	929	314	301	655	1,628	1,034	595
Butternut	5,065	4,300	338	402	24	5,085	4,595	490
Black walnut	180,237	158,388	7,592	11,130	3,127	322,917	309,320	13,596
Sweetgum	75,556	74,732	242	334	248	148,729	148,295	434
Yellow-poplar	83,374	81,708	537	1,044	85	255,885	254,896	989
Cucumbertree	546	496	--	--	51	887	887	--
White mulberry	6,931	1,642	1,105	3,382	803	4,842	2,735	2,107
Red mulberry	19,144	5,836	887	11,452	970	2,579	1,331	1,247
Water tupelo	9,837	9,196	432	98	111	18,940	18,429	512
Blackgum	13,193	12,587	--	174	432	25,760	25,760	--
Sycamore	199,820	188,939	1,933	2,475	6,472	648,355	644,322	4,033
Balsam poplar	18	--	--	--	18	--	--	--
Eastern cottonwood	246,112	229,182	11,718	4,955	258	898,341	876,691	21,651
Bigtooth aspen	2,274	2,274	--	--	--	6,011	6,011	--
Swamp cottonwood	364	364	--	--	--	305	305	--
Quaking aspen	1,747	1,747	--	--	--	1,460	1,460	--

(Table 36A continued on next page)

(Table 36A continued)

Individual species	All live	Major tree class: All live trees: Growing stock	All live trees: Short-log	All live trees: Rough	All live trees: Rotten	Saw-log size trees: Total saw-log size trees	Saw-log size trees: Sawtimber	Saw-log size trees: Short-log
Hardwoods			(In thousand cubic feet)				(In thousand board feet) [1]	
Black cherry	135,689	106,613	4,393	22,570	2,113	175,580	168,580	7,000
White oak	865,619	793,173	41,552	20,630	10,263	2,333,453	2,248,967	84,486
Swamp white oak	27,816	27,395	--	225	196	83,825	83,825	--
Scarlet oak	6,601	6,268	--	--	333	18,965	18,965	--
Northern pin oak	15,773	14,995	--	778	--	41,814	41,814	--
Southern red oak	25,773	24,754	423	--	597	83,273	82,475	797
Cherrybark;swamp red oak	11,137	11,137	--	--	--	30,643	30,643	--
Shingle oak	137,349	121,453	8,578	5,798	1,520	285,255	270,526	14,729
Overcup oak	14,616	12,390	592	37	1,596	51,312	50,130	1,182
Bur oak	152,573	126,989	9,033	15,768	783	438,483	419,820	18,662
Blackjack oak	7,231	6,547	154	325	205	9,052	8,740	312
Swamp chestnut oak	6,315	6,315	--	--	--	23,596	23,596	--
Chinkapin oak	39,325	31,560	1,506	5,538	721	83,099	80,649	2,450
Pin oak	171,053	167,551	--	1,417	2,085	531,868	531,868	--
Willow oak	675	675	--	--	--	2,721	2,721	--
Chestnut oak	2,867	1,024	1,843	--	--	7,457	3,948	3,509
Northern red oak	380,989	358,347	8,856	6,850	6,936	1,173,922	1,155,558	18,364
Shumard oak	5,271	5,271	--	--	--	19,596	19,596	--
Post oak	132,874	124,334	3,432	2,252	2,855	312,448	306,505	5,943
Black oak	601,150	566,010	13,111	14,132	7,897	1,694,571	1,670,194	24,377
Black locust	50,109	39,812	1,176	5,219	3,902	61,914	59,847	2,067
Black willow	93,174	76,542	2,543	10,929	3,160	146,615	142,131	4,484
Sassafras	44,575	33,595	462	6,813	3,705	22,663	22,102	561
American basswood	79,289	71,413	3,618	2,452	1,806	189,189	182,584	6,605
Winged elm	4,416	4,185	--	231	--	1,351	1,351	--
American elm	201,874	163,168	9,355	27,663	1,688	197,618	180,818	16,800
Siberian elm	1,193	383	--	810	--	874	874	--
Slippery elm	77,501	68,141	1,741	7,013	606	78,896	75,823	3,073
Rock elm	350	350	--	--	--	--	--	--
Total hardwoods	6,443,039	5,773,998	214,255	328,522	126,263	14,868,504	14,468,709	399,795
Total commercial species	6,619,347	5,942,855	216,082	333,763	126,665	15,195,712	14,792,020	403,692
Noncommercial species	80,875	--	--	79,260	1,615	--	--	--
Total all species	6,700,240	5,942,855	216,082	413,023	128,280	15,195,712	14,792,020	403,692

All table cells without observations in the inventory sample are indicated by --. Cells with observations smaller than the precision reported in the table are shown as zero. Columns and rows may not add to their totals due to rounding.

[1] Doyle rule.

Table 37. -- Net volume of noncommercial tree species on timberland by individual species, Illinois, 1998

(In thousand cubic feet)

Noncommercial tree species	Non-growing-stock volume
Tree-of-heaven	768
American hornbeam	554
Eastern redbud	4,793
Hawthorn	3,205
Osage-orange	62,902
Apple	962
Eastern hophornbeam	7,049
Wild plum	290
Peachleaf willow	352
All noncommercial species	80,875

All table cells without observations in the inventory sample are indicated by --. Cells with observations smaller than the precision reported in the table are shown as zero. Columns and rows may not add to their totals due to rounding.

Table 38. -- Net volume of growing stock on timberland by species group and forest type group/local type, Illinois, 1998

(In thousand cubic feet)

Species group	All types	Forest type group/local type													
		White-red-jack pine	Loblolly-shortleaf pine	Oak-pine				Oak-hickory			Oak-gum-cypress	Elm-ash-cottonwood	Maple-beech-birch	Non-stocked	
		White pine	Shortleaf pine	Total	Eastern redcedar	Eastern redcedar-hardwood	Oak-pine	Total	Chestnut-scarlet oak	White oak-red oak-hickory	Oak-gum-cypress	Elm-ash-soft maple	Maple-beech	Non-stocked	
Softwoods															
Jack pine	2,444	2,444	--	--	--	--	--	--	--	--	--	--	--	--	--
Red pine	17,133	16,662	--	60	--	--	60	410	160	251	--	--	--	--	--
White pine	50,375	44,458	--	2,643	--	--	2,643	2,621	134	2,488	--	--	653	--	--
Loblolly pine	3,164	--	--	--	--	--	--	1,810	--	1,810	--	1,354	--	--	--
Shortleaf pine	65,326	1,427	52,465	7,130	--	--	7,130	3,810	31	3,779	--	--	494	--	--
White spruce	1,042	773	--	269	--	--	269	--	--	--	--	--	--	--	--
Baldcypress	8,284	--	--	--	--	--	--	49	--	49	2,608	4,382	1,245	--	--
Eastern redcedar	17,158	258	111	4,898	864	3,636	398	9,534	1,070	8,464	200	945	1,211	--	--
Other softwoods	3,930	1,655	89	2,057	--	--	2,057	130	--	130	--	--	--	--	--
Total	168,856	67,677	52,665	17,058	864	3,636	12,558	18,365	1,394	16,971	2,809	6,680	3,603	--	--
Hardwoods															
Select white oak	985,433	66	--	1,814	226	459	1,129	878,585	31,568	847,017	8,867	31,198	64,903	--	--
Other white oak	137,749	--	--	1,851	78	859	914	118,549	36,530	82,019	3,763	9,567	4,019	--	--
Select red oak	374,756	--	163	256	256	--	--	306,574	11,927	294,646	7,263	13,268	47,233	--	--
Other red oak	908,252	268	535	6,259	518	1,784	3,957	691,881	190,120	501,761	70,473	63,927	74,909	--	--
Select hickory	380,382	24	95	1,116	--	194	922	313,294	12,730	300,564	2,474	26,654	36,726	--	--
Other hickory	267,097	--	--	2,830	297	1,194	1,339	227,076	9,790	217,286	2,415	14,423	20,354	--	--
Basswood	71,413	--	--	--	--	--	--	17,233	501	16,732	--	6,240	47,939	--	--
Beech	14,866	--	--	--	--	--	--	1,480	--	1,480	--	--	13,386	--	--
Hard maple	206,723	--	138	--	--	--	--	89,127	6,402	82,725	1,193	11,317	104,948	--	--
Soft maple	519,662	--	170	1,816	--	--	1,816	23,904	813	23,092	4,872	458,309	30,591	--	--
Elm	236,227	674	735	794	--	490	304	85,274	5,562	79,711	2,646	57,042	89,062	--	--
Black ash	2,772	--	--	--	--	--	--	143	--	143	--	619	2,009	--	--
White & green ash	307,848	--	507	226	--	175	51	117,888	9,230	108,658	4,852	103,801	80,574	--	--
Sycamore	188,939	140	46	86	--	86	--	30,300	814	29,486	6,340	119,808	32,218	--	--
Cottonwood	229,182	--	1,836	--	--	--	--	20,500	1,307	19,194	1,153	187,446	18,246	--	--
Willow	76,542	250	120	--	--	--	--	1,801	405	1,396	1,821	70,141	2,410	--	--
Hackberry	142,502	--	195	--	--	--	--	27,216	533	26,683	1,882	90,873	22,337	--	--
Balsam poplar	364	--	--	--	--	--	--	--	--	--	--	364	--	--	--
Bigtooth aspen	2,274	--	--	--	--	--	--	--	--	--	--	--	2,274	--	--
Quaking aspen	1,747	--	--	--	--	--	--	1,421	--	1,421	--	326	--	--	--
Paper birch	43	--	--	--	--	--	--	--	--	--	--	43	--	--	--
River birch	33,717	--	--	136	--	--	136	1,179	478	702	999	29,116	2,287	--	--
Sweetgum	74,732	--	1,090	32	--	--	32	17,708	--	17,708	37,240	9,709	8,953	--	--
Tupelo	21,783	--	219	53	--	53	--	7,056	283	6,773	375	11,190	2,891	--	--
Black cherry	106,613	653	895	101	--	--	101	48,758	6,319	42,439	2,213	15,113	38,880	--	--
Black walnut	158,388	--	406	188	--	--	188	63,677	6,283	57,394	75	29,700	64,342	--	--
Butternut	4,300	--	--	--	--	--	--	1,302	--	1,302	336	571	2,091	--	--
Yellow-poplar	81,708	95	5,799	1,610	--	1,286	324	19,033	--	19,033	4,073	6,418	44,679	--	--
Other hardwoods	237,985	26	464	592	122	155	315	109,007	4,765	104,242	2,713	97,677	27,506	--	--
Total	5,773,998	2,196	13,413	19,760	1,497	6,735	11,527	3,219,966	336,360	2,883,605	168,038	1,464,859	885,766	--	--
All species	5,942,855	69,873	66,078	36,817	2,362	10,370	24,085	3,238,331	337,754	2,900,577	170,847	1,471,540	889,369	--	--

All table cells without observations in the inventory sample are indicated by --. Cells with observations smaller than the precision reported in the table are shown as zero. Columns and rows may not add to their totals due to rounding.

Table 39. -- Net volume of sawtimber (International 1/4 inch rule) on timberland by species group and forest type group/local type, Illinois, 1998

(In thousand board feet) [1]

Species group	All types	Forest type group/local type												
		White-red-jack pine	Loblolly-shortleaf pine	Oak-pine				Oak-hickory			Oak-gum-cypress	Elm-ash-cottonwood	Maple-beech-birch	Non-stocked
		White pine	Shortleaf pine	Total	Eastern redcedar	Eastern redcedar-hardwood	Oak-pine	Total	Chestnut-scarlet oak	White oak-red oak-hickory	Oak-gum-cypress	Elm-ash-soft maple	Maple-beech	Non-stocked
Softwoods														
Jack pine	1,188	1,188	--	--	--	--	--	--	--	--	--	--	--	--
Red pine	34,629	33,991	--	--	--	--	--	638	638	--	--	--	--	--
White pine	186,012	171,523	--	1,791	--	--	1,791	10,851	657	10,195	--	--	1,847	--
Loblolly pine	15,493	--	--	--	--	--	--	8,505	--	8,505	--	6,988	--	--
Shortleaf pine	259,222	1,834	212,250	26,810	--	--	26,810	15,776	--	15,776	--	--	2,552	--
Baldcypress	41,845	--	--	--	--	--	--	--	--	--	13,573	22,063	6,208	--
Eastern redcedar	45,882	729	--	12,595	3,121	9,474	--	29,280	2,207	27,073	885	1,469	924	--
Other softwoods	6,091	3,085	--	2,417	--	--	2,417	589	--	589	--	--	--	--
Total	590,362	212,350	212,250	43,612	3,121	9,474	31,017	65,639	3,502	62,137	14,458	30,521	11,531	--
Hardwoods														
Select white oak	4,044,760	--	--	5,028	--	--	5,028	3,620,590	124,074	3,496,516	36,266	117,776	265,100	--
Other white oak	556,571	--	--	5,550	--	1,010	4,540	471,724	150,617	321,107	17,495	43,643	18,158	--
Select red oak	1,681,730	--	--	1,262	1,262	--	--	1,393,158	53,608	1,339,551	28,568	51,065	207,677	--
Other red oak	3,771,630	--	1,280	28,216	1,816	7,460	18,940	2,893,514	822,396	2,071,117	301,349	262,573	284,698	--
Select hickory	1,258,662	--	--	2,555	--	--	2,555	1,015,648	33,192	982,456	3,096	103,654	133,709	--
Other hickory	889,697	--	--	9,945	--	3,251	6,695	767,814	28,514	739,300	10,908	40,585	60,446	--
Basswood	275,981	--	--	--	--	--	--	63,198	--	63,198	--	23,577	189,205	--
Beech	69,288	--	--	--	--	--	--	6,619	--	6,619	--	--	62,669	--
Hard maple	670,310	--	--	--	--	--	--	284,856	26,008	258,847	5,594	39,924	339,936	--
Soft maple	1,843,918	--	--	7,669	--	--	7,669	72,081	1,690	70,390	17,510	1,658,805	87,853	--
Elm	473,980	3,057	--	--	--	--	--	156,395	8,225	148,170	798	120,875	192,855	--
Black ash	7,555	--	--	--	--	--	--	--	--	--	--	--	7,555	--
White & green ash	998,687	--	1,018	779	--	779	--	404,662	26,279	378,382	14,846	294,898	282,484	--
Sycamore	791,243	--	--	--	--	--	--	124,646	2,708	121,938	19,879	506,112	140,606	--
Cottonwood	1,048,943	--	6,741	--	--	--	--	96,694	5,648	91,046	5,289	851,822	88,397	--
Willow	231,357	--	--	--	--	--	--	7,760	1,796	5,964	8,368	206,731	8,498	--
Hackberry	423,896	--	--	--	--	--	--	70,882	--	70,882	4,527	281,005	67,482	--
Bigtooth aspen	9,921	--	--	--	--	--	--	--	--	--	--	--	9,921	--
Quaking aspen	3,500	--	--	--	--	--	--	3,500	--	3,500	--	--	--	--
River birch	106,282	--	--	--	--	--	--	1,939	--	1,939	3,404	92,678	8,261	--
Sweetgum	250,447	--	3,353	--	--	--	--	63,383	--	63,383	116,104	34,400	33,208	--
Tupelo	62,885	--	780	--	--	--	--	13,503	1,281	12,223	--	38,637	9,965	--
Black cherry	296,706	--	3,871	--	--	--	--	134,423	14,043	120,380	4,842	46,691	106,879	--
Black walnut	534,581	--	1,391	--	--	--	--	211,804	15,743	196,061	--	109,097	212,289	--
Butternut	9,186	--	--	--	--	--	--	4,462	--	4,462	--	1,896	2,828	--
Yellow-poplar	370,244	--	27,820	3,328	--	3,328	--	90,829	--	90,829	18,014	32,345	197,908	--
Other hardwoods	602,911	--	--	--	--	--	--	242,686	14,349	228,337	4,682	296,698	58,845	--
Total	21,284,873	3,057	46,254	64,333	3,078	15,828	45,427	12,216,770	1,330,173	10,886,597	621,540	5,255,487	3,077,432	--
All species	21,875,235	215,407	258,504	107,945	6,199	25,302	76,444	12,282,409	1,333,675	10,948,734	635,999	5,286,008	3,088,963	--

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[1] International 1/4 inch rule.

Table 39A. -- Net volume of sawtimber (Doyle rule) on timberland by species group and forest type group/local type, Illinois, 1998

(In thousand board feet) [1]

Species group	All types	Forest type group/local type												
		White-red-jack pine	Loblolly-shortleaf pine	Oak-pine				Oak-hickory			Oak-gum-cypress	Elm-ash-cottonwood	Maple-beech-birch	Non-stocked
		White pine	Shortleaf pine	Total	Eastern redcedar	Eastern redcedar-hardwood	Oak-pine	Total	Chestnut-scarlet oak	White oak-red oak-hickory	Oak-gum-cypress	Elm-ash-soft maple	Maple-beech	Non-stocked
Softwoods														
Jack pine	411	411	--	--	--	--	--	--	--	--	--	--	--	--
Red pine	13,272	12,967	--	--	--	--	--	305	305	--	--	--	--	--
White pine	97,016	89,401	--	786	--	--	786	6,075	314	5,761	--	--	753	--
Loblolly pine	11,238	--	--	--	--	--	--	5,755	--	5,755	--	5,483	--	--
Shortleaf pine	138,108	634	115,646	12,196	--	--	12,196	8,223	--	8,223	--	--	1,409	--
Baldcypress	40,256	--	--	--	--	--	--	--	--	--	12,265	22,498	5,493	--
Eastern redcedar	20,410	252	--	5,494	1,699	3,795	--	13,416	1,055	12,361	306	623	319	--
Other softwoods	2,600	1,562	--	835	--	--	835	203	--	203	--	--	--	--
Total	323,311	105,227	115,646	19,311	1,699	3,795	13,817	33,978	1,674	32,304	12,571	28,604	7,975	--
Hardwoods														
Select white oak	2,856,857	--	--	3,989	--	--	3,989	2,542,575	97,304	2,445,270	28,939	87,291	194,064	--
Other white oak	360,584	--	--	3,675	--	422	3,254	293,746	95,205	198,541	11,043	39,797	12,322	--
Select red oak	1,205,796	--	--	527	527	--	--	1,003,349	38,413	964,936	16,955	39,618	145,348	--
Other red oak	2,627,303	--	919	18,196	929	5,028	12,239	1,980,276	563,927	1,416,348	220,882	202,163	204,866	--
Select hickory	769,573	--	--	1,308	--	--	1,308	615,972	17,918	598,054	1,706	66,636	83,951	--
Other hickory	504,689	--	--	5,957	--	1,356	4,601	436,561	15,254	421,307	6,715	23,981	31,474	--
Basswood	182,584	--	--	--	--	--	--	37,476	--	37,476	--	11,924	133,184	--
Beech	49,029	--	--	--	--	--	--	4,626	--	4,626	--	--	44,403	--
Hard maple	414,483	--	--	--	--	--	--	171,282	16,932	154,350	4,380	23,097	215,724	--
Soft maple	1,345,376	--	--	3,992	--	--	3,992	46,980	1,323	45,657	10,356	1,226,553	57,494	--
Elm	258,866	1,276	--	--	--	--	--	85,261	4,481	80,779	333	67,235	104,763	--
Black ash	3,867	--	--	--	--	--	--	--	--	--	--	--	3,867	--
White & green ash	606,257	--	425	325	--	325	--	242,798	15,497	227,301	8,374	172,502	181,833	--
Sycamore	644,322	--	--	--	--	--	--	96,106	1,593	94,513	11,665	417,973	118,578	--
Cottonwood	876,691	--	3,362	--	--	--	--	78,395	2,632	75,762	4,099	716,956	73,879	--
Willow	142,131	--	--	--	--	--	--	5,032	1,406	3,625	4,040	128,010	5,050	--
Hackberry	273,679	--	--	--	--	--	--	41,916	--	41,916	2,657	185,531	43,576	--
Bigtooth aspen	6,011	--	--	--	--	--	--	--	--	--	--	--	6,011	--
Quaking aspen	1,460	--	--	--	--	--	--	1,460	--	1,460	--	--	--	--
River birch	62,410	--	--	--	--	--	--	993	--	993	1,787	55,180	4,450	--
Sweetgum	148,295	--	1,997	--	--	--	--	40,650	--	40,650	63,848	21,991	19,810	--
Tupelo	44,189	--	325	--	--	--	--	7,241	534	6,706	--	31,275	5,348	--
Black cherry	168,580	--	2,543	--	--	--	--	70,757	7,322	63,435	2,478	32,859	59,943	--
Black walnut	309,320	--	581	--	--	--	--	119,548	10,294	109,254	--	60,919	128,273	--
Butternut	4,595	--	--	--	--	--	--	2,300	--	2,300	--	1,116	1,180	--
Yellow-poplar	254,896	--	25,577	1,596	--	1,596	--	57,975	--	57,975	12,609	24,220	132,920	--
Other hardwoods	346,865	--	--	--	--	--	--	134,417	10,113	124,303	2,856	175,181	34,412	--
Total	14,468,709	1,276	35,728	39,565	1,456	8,726	29,383	8,117,690	900,152	7,217,538	415,723	3,812,005	2,046,724	--
All species	14,792,020	106,502	151,375	58,876	3,155	12,521	43,200	8,151,668	901,826	7,249,842	428,293	3,840,609	2,054,698	--

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[1] Doyle rule.

Table 40. -- Net volume of short-log trees (cull volume) in cubic feet on timberland by species group and diameter class, Illinois, 1998

(In thousand cubic feet)

Species group	All classes	Diameter class (inches at breast height)							
		9.0-10.9	11.0-12.9	13.0-14.9	15.0-16.9	17.0-18.9	19.0-20.9	21.0-28.9	29.0+
Softwoods									
White pine	126	126	--	--	--	--	--	--	--
Eastern redcedar	1,521	346	194	--	399	--	583	--	--
Other softwoods	180	--	180	--	--	--	--	--	--
Total softwoods	1,827	471	374	--	399	--	583	--	--
Hardwoods									
Select white oak	52,092	--	2,188	2,691	2,580	941	341	12,844	30,506
Other white oak	5,867	--	230	454	--	592	972	3,619	--
Select red oak	8,856	--	284	--	--	--	1,354	5,477	1,740
Other red oak	22,266	--	2,188	2,225	2,968	2,668	784	5,995	5,439
Select hickory	5,280	--	1,018	289	2,439	747	366	422	--
Other hickory	1,577	--	--	306	757	514	--	--	--
Basswood	3,618	--	--	--	842	1,300	1,475	--	--
Beech	631	--	--	238	--	--	--	393	--
Hard maple	7,743	--	398	1,204	730	1,320	1,172	2,283	636
Soft maple	30,509	--	2,797	3,261	4,025	3,603	2,995	11,178	2,649
Elm	11,096	--	3,362	2,037	2,190	2,126	1,053	327	--
Black ash	461	--	--	--	461	--	--	--	--
White & green ash	10,849	--	1,672	2,131	510	955	2,263	2,824	493
Sycamore	1,933	--	--	--	547	--	--	949	437
Cottonwood	11,718	--	398	901	--	--	--	1,174	9,245
Willow	2,543	--	514	420	--	--	--	1,541	68
Hackberry	6,619	--	957	426	975	1,605	246	605	1,805
River birch	1,186	--	--	--	--	--	--	1,186	--
Sweetgum	242	--	--	--	--	242	--	--	--
Tupelo	432	--	432	--	--	--	--	--	--
Black cherry	4,393	--	928	750	958	994	231	532	--
Black walnut	7,592	--	1,715	883	1,410	571	--	3,013	--
Butternut	338	--	--	338	--	--	--	--	--
Yellow-poplar	537	--	--	--	--	537	--	--	--
Other hardwoods	15,877	--	3,229	3,367	2,455	--	1,611	5,215	--
Total hardwoods	214,255	--	22,309	21,923	23,847	18,717	14,864	59,578	53,018
All species	216,082	471	22,682	21,923	24,246	18,717	15,447	59,578	53,018

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Table 41. -- Net volume of short-log trees (International 1/4 inch rule - cull volume) in board feet on timberland by species group and diameter class, Illinois, 1998

(In thousand board feet) [1]

Species group	All classes	Diameter class (inches at breast height)							
		9.0-10.9	11.0-12.9	13.0-14.9	15.0-16.9	17.0-18.9	19.0-20.9	21.0-28.9	29.0+
Softwoods									
White pine	506	506	--	--	--	--	--	--	--
Eastern redcedar	5,489	1,575	807	--	1,294	--	1,813	--	--
Other softwoods	720	--	720	--	--	--	--	--	--
Total softwoods	6,715	2,081	1,527	--	1,294	--	1,813	--	--
Hardwoods									
Select white oak	115,320	--	6,959	8,258	7,666	2,714	957	32,669	56,097
Other white oak	14,565	--	833	1,575	--	1,800	2,561	7,797	--
Select red oak	21,677	--	858	--	--	--	3,740	14,007	3,073
Other red oak	56,107	--	7,222	7,129	9,206	7,893	2,164	14,040	8,453
Select hickory	14,319	--	3,226	862	6,696	1,884	869	783	--
Other hickory	4,776	--	--	965	2,318	1,492	--	--	--
Basswood	9,929	--	--	--	2,354	3,572	4,003	--	--
Beech	1,679	--	--	676	--	--	--	1,002	--
Hard maple	18,268	--	1,140	3,325	1,977	3,399	2,878	4,774	775
Soft maple	77,854	--	7,177	8,421	10,449	9,363	7,767	28,490	6,188
Elm	35,897	--	11,284	6,707	6,977	6,810	3,254	865	--
Black ash	1,437	--	--	--	1,437	--	--	--	--
White & green ash	31,679	--	5,350	6,771	1,584	2,858	6,562	7,544	1,010
Sycamore	4,788	--	--	--	1,289	--	--	2,417	1,081
Cottonwood	21,621	--	901	2,087	--	--	--	3,107	15,526
Willow	6,227	--	1,149	935	--	--	--	4,002	140
Hackberry	19,844	--	3,220	1,357	3,132	5,116	753	1,645	4,620
River birch	2,618	--	--	--	--	--	--	2,618	--
Sweetgum	661	--	--	--	--	661	--	--	--
Tupelo	1,227	--	1,227	--	--	--	--	--	--
Black cherry	11,953	--	2,658	2,117	2,691	2,721	613	1,152	--
Black walnut	22,662	--	6,490	3,159	4,868	1,836	--	6,308	--
Butternut	958	--	--	958	--	--	--	--	--
Yellow-poplar	1,506	--	--	--	--	1,506	--	--	--
Other hardwoods	42,428	--	9,305	9,625	6,794	--	4,312	12,391	--
Total hardwoods	539,998	--	69,000	64,928	69,438	53,626	40,433	145,610	96,963
All species	546,713	2,081	70,527	64,928	70,733	53,626	42,246	145,610	96,963

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[1] International 1/4 inch rule.

Table 41A. -- Net volume of short-log trees (Doyle rule - cull volume) in board feet on timberland by species group and diameter class, Illinois, 1998

(In thousand board feet) [1]

Species group	All classes	Diameter class (inches at breast height)							
		9.0-10.9	11.0-12.9	13.0-14.9	15.0-16.9	17.0-18.9	19.0-20.9	21.0-28.9	29.0+
Softwoods									
White pine	175	175	--	--	--	--	--	--	--
Eastern redcedar	3,378	544	386	--	894	--	1,554	--	--
Other softwoods	344	--	344	--	--	--	--	--	--
Total softwoods	3,897	719	730	--	894	--	1,554	--	--
Hardwoods									
Select white oak	105,598	--	2,903	4,226	4,509	1,783	687	27,825	63,664
Other white oak	10,634	--	348	806	--	1,182	1,839	6,459	--
Select red oak	18,364	--	358	--	--	--	2,685	11,834	3,487
Other red oak	40,216	--	3,013	3,649	5,415	5,185	1,554	11,807	9,593
Select hickory	8,238	--	1,346	441	3,939	1,237	624	651	--
Other hickory	2,838	--	--	494	1,364	980	--	--	--
Basswood	6,605	--	--	--	1,384	2,347	2,874	--	--
Beech	1,222	--	--	346	--	--	--	876	--
Hard maple	12,589	--	476	1,702	1,163	2,233	2,066	4,071	879
Soft maple	56,305	--	2,994	4,310	6,146	6,151	5,577	24,105	7,022
Elm	19,873	--	4,708	3,433	4,104	4,474	2,336	819	--
Black ash	846	--	--	--	846	--	--	--	--
White & green ash	20,586	--	2,232	3,465	932	1,878	4,712	6,222	1,146
Sycamore	4,033	--	--	--	758	--	--	2,048	1,227
Cottonwood	21,651	--	376	1,068	--	--	--	2,586	17,620
Willow	4,484	--	479	478	--	--	--	3,367	159
Hackberry	14,447	--	1,343	695	1,842	3,361	541	1,421	5,244
River birch	2,287	--	--	--	--	--	--	2,287	--
Sweetgum	434	--	--	--	--	434	--	--	--
Tupelo	512	--	512	--	--	--	--	--	--
Black cherry	7,000	--	1,109	1,084	1,583	1,787	440	997	--
Black walnut	13,596	--	2,708	1,617	2,863	1,206	--	5,202	--
Butternut	490	--	--	490	--	--	--	--	--
Yellow-poplar	989	--	--	--	--	989	--	--	--
Other hardwoods	25,957	--	3,882	4,926	3,996	--	3,096	10,056	--
Total hardwoods	399,795	--	28,787	33,230	40,843	35,227	29,031	122,634	110,043
All species	403,692	719	29,517	33,230	41,738	35,227	30,585	122,634	110,043

All table cells without observations in the inventory sample are indicated by --. Cells with observations smaller than the precision reported in the table are shown as zero. Columns and rows may not add to their totals due to rounding.

[1] Doyle rule.

Table 42. -- Average annual net growth of growing stock and sawtimber (International 1/4 inch rule) on timberland, 1962 to 1985 and 1985 to 1997, and current annual net growth of growing stock and sawtimber, 1997, by Forest Survey Unit and softwoods and hardwoods, Illinois

Forest Survey Unit and softwoods and hardwoods	Growing stock			Sawtimber		
	Average annual net growth 1962 -1985	Average annual net growth 1985 -1997	Current annual net growth 1997	Average annual net growth 1962 -1985	Average annual net growth 1985 - 1997	Current annual net growth 1997
	(In thousand cubic feet)			(In thousand board feet)[1]		
Southern Unit						
Softwoods	1,108	3,281	2,368	5,599	13,457	7,346
Hardwoods	31,034	50,469	49,607	148,202	197,490	152,103
Total	32,142	53,750	51,975	153,801	210,947	159,448
Claypan Unit						
Softwoods	4,013	381	373	24,785	603	498
Hardwoods	64,933	56,118	54,376	321,337	211,805	164,085
Total	68,946	56,499	54,749	346,122	212,408	164,582
Prairie Unit						
Softwoods	856	1,961	1,891	713	6,732	5,227
Hardwoods	15,911	62,301	61,624	61,647	233,547	182,921
Total	16,767	64,262	63,515	62,360	240,279	188,148
All Units						
Softwoods	6,638	5,623	4,632	39,303	20,792	13,070
Hardwoods	146,997	168,888	165,607	686,641	642,841	499,109
Total	153,635	174,511	170,239	725,944	663,633	512,178

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[1] International 1/4 inch rule.

Table 42A. -- Average annual net growth of growing stock and sawtimber (Doyle rule) on timberland, 1985 to 1997, and current annual net growth of growing stock and sawtimber, 1997, by Forest Survey Unit and softwoods and hardwoods, Illinois

Forest Survey Unit and softwoods and hardwoods	Growing stock		Sawtimber	
	Average annual net growth	Current annual net growth	Average annual net growth	Current annual net growth
	1985 -1997	1997	1985 - 1997	1997
	(In thousand cubic feet)		(In thousand board feet)[1]	
Southern Unit				
Softwoods	3,281	2,368	6,022	3,611
Hardwoods	50,469	49,607	109,976	85,897
Total	53,750	51,975	115,998	89,508
Claypan Unit				
Softwoods	381	373	248	210
Hardwoods	56,118	54,376	123,321	94,556
Total	56,499	54,749	123,568	94,767
Prairie Unit				
Softwoods	1,961	1,891	2,689	2,194
Hardwoods	62,301	61,624	132,911	106,438
Total	64,262	63,515	135,599	108,632
All Units				
Softwoods	5,623	4,632	8,958	6,016
Hardwoods	168,888	165,607	366,207	286,891
Total	174,511	170,239	375,166	292,907

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[1] Doyle rule.

Table 43. -- Average annual net growth of growing stock on timberland by species group and forest type group/local type, Illinois, 1985-1997

(In thousand cubic feet)

Species group	All types	Forest type group/local type												
		White-red-jack pine	Loblolly-shortleaf pine	Oak-pine				Oak-hickory			Oak-gum-cypress	Elm-ash-cottonwood	Maple-beech-birch	Non-stocked
		White pine	Shortleaf pine	Total	Eastern redcedar	Eastern redcedar-hardwood	Oak-pine	Total	Chestnut-scarlet oak	White oak-red oak-hickory	Oak-gum-cypress	Elm-ash-soft maple	Maple-beech	Non-stocked
Softwoods														
Jack pine	78	78	--	--	--	--	--	--	--	--	--	--	--	--
Red pine	484	452	--	10	--	--	10	22	5	17	--	--	--	--
White pine	2,047	1,406	--	297	--	--	297	243	2	241	--	--	102	--
Loblolly pine	273	--	--	--	--	--	--	256	--	256	--	--	--	16
Shortleaf pine	1,833	45	1,413	241	--	29	212	117	6	111	--	--	16	--
Baldcypress	74	--	--	--	--	--	--	--	--	--	--	39	35	--
Eastern redcedar	665	7	--	137	39	88	10	427	77	350	--	14	67	12
Other softwoods	169	57	0	103	--	--	103	10	--	10	--	--	--	--
Total	5,623	2,045	1,414	787	39	117	631	1,076	90	985	--	54	220	28
Hardwoods														
Select white oak	19,349	2	--	37	2	15	20	16,858	769	16,089	161	570	1,689	34
Other white oak	2,792	--	--	18	12	9	-3	2,549	690	1,859	45	85	94	--
Select red oak	9,230	--	49	22	20	2	--	6,705	201	6,504	268	496	1,681	10
Other red oak	25,544	5	4	186	42	48	96	19,068	4,127	14,942	1,438	2,144	2,698	--
Select hickory	8,447	1	--	23	--	2	21	6,469	275	6,194	177	864	899	15
Other hickory	7,286	--	--	50	17	4	29	5,705	226	5,479	95	493	915	29
Basswood	1,734	--	--	--	--	--	--	822	24	799	--	105	806	--
Beech	184	--	--	--	--	--	--	152	--	152	--	6	26	--
Hard maple	5,668	--	--	32	--	32	--	2,103	81	2,022	63	278	3,191	--
Soft maple	14,944	--	5	65	--	--	65	1,371	75	1,296	300	11,595	1,448	160
Elm	12,933	18	30	145	--	133	11	5,342	279	5,063	192	3,073	4,113	21
Black ash	155	--	--	--	--	--	--	38	--	38	--	25	92	--
White & green ash	10,789	--	21	35	4	14	16	4,033	424	3,609	137	3,890	2,601	73
Sycamore	5,264	26	--	25	--	25	--	876	10	866	338	2,839	1,160	--
Cottonwood	9,294	--	70	17	--	4	13	629	34	596	37	7,279	1,175	87
Willow	3,338	--	--	--	--	--	--	155	48	107	29	3,016	57	82
Hackberry	4,661	--	3	--	--	--	--	783	4	779	118	2,811	941	5
Bigtooth aspen	13	--	--	--	--	--	--	--	--	--	--	--	13	--
Quaking aspen	71	--	--	--	--	--	--	30	--	30	--	41	--	--
River birch	1,027	--	--	15	--	--	15	29	2	27	28	892	57	7
Sweetgum	2,619	--	54	2	--	--	2	570	--	570	1,352	289	351	--
Tupelo	643	--	--	10	--	10	--	198	7	191	3	154	83	197
Black cherry	4,736	18	--	41	--	20	21	2,102	206	1,896	132	627	1,814	2
Black walnut	4,818	--	1	24	--	24	0	1,925	102	1,823	55	1,041	1,731	41
Butternut	223	--	--	--	--	--	--	69	--	69	9	17	128	--
Yellow-poplar	3,993	16	42	92	--	55	37	1,406	59	1,347	151	363	1,924	--
Other hardwoods	9,156	--	61	64	5	30	29	3,436	124	3,312	97	3,807	1,562	129
Total	168,911	86	342	900	102	428	371	83,422	7,765	75,658	5,222	46,800	31,248	891
All species	174,511	2,131	1,755	1,687	141	544	1,002	84,488	7,855	76,634	5,222	46,840	31,467	919

All table cells without observations in the inventory sample are indicated by --. Cells with observations smaller than the precision reported in the table are shown as zero. Columns and rows may not add to their totals due to rounding.

Table 44. -- Average annual net growth of sawtimber (International 1/4 inch rule) on timberland by species group and forest type group/local type, Illinois, 1985-1997

(In thousand board feet) [1]

Species group	All types	Forest type group/local type													
		White-red-jack pine	Loblolly-shortleaf pine	Oak-pine				Oak-hickory			Oak-gum-cypress	Elm-ash-cottonwood	Maple-beech-birch	Non-stocked	
		White pine	Shortleaf pine	Total	Eastern redcedar	Eastern redcedar-hardwood	Oak-pine	Total	Chestnut-scarlet oak	White oak-red oak-hickory	Oak-gum-cypress	Elm-ash-soft maple	Maple-beech	Non-stocked	
Softwoods															
Jack pine	79	79	--	--	--	--	--	--	--	--	--	--	--	--	--
Red pine	1,880	1,868	--	--	--	--	--	11	11	--	--	--	--	--	--
White pine	6,680	5,545	--	142	--	--	142	560	12	548	--	--	433	--	--
Loblolly pine	1,282	--	--	--	--	--	--	1,208	--	1,208	--	--	--	74	
Shortleaf pine	8,904	107	6,368	1,408	--	90	1,318	935	--	935	--	--	86	--	
Baldcypress	378	--	--	--	--	--	--	--	--	--	--	194	184	--	
Eastern redcedar	1,320	17	--	166	85	82	--	991	2	989	--	0	147	-1	
Other softwoods	269	75	--	193	--	--	193	--	--	--	--	--	--	--	
Total	20,792	7,693	6,368	1,909	85	172	1,653	3,705	26	3,680	--	194	849	73	
Hardwoods															
Select white oak	87,986	--	--	78	--	-2	80	77,180	3,234	73,945	498	2,750	7,280	201	
Other white oak	13,480	--	--	110	--	67	43	12,291	3,212	9,080	280	480	319	--	
Select red oak	44,406	--	299	20	20	--	--	32,861	916	31,946	962	2,047	8,147	70	
Other red oak	110,813	--	21	737	89	146	502	84,447	19,460	64,987	6,832	8,688	10,087	--	
Select hickory	30,590	--	--	51	--	--	51	22,839	1,329	21,509	373	3,777	3,547	4	
Other hickory	29,863	--	--	327	30	155	142	23,978	876	23,102	450	1,486	3,557	64	
Basswood	7,535	--	--	--	--	--	--	3,826	--	3,826	--	468	3,242	--	
Beech	939	--	--	--	--	--	--	525	--	525	--	28	387	--	
Hard maple	19,322	--	--	139	--	139	--	7,787	310	7,477	264	1,127	10,005	--	
Soft maple	53,983	--	75	275	--	--	275	5,042	29	5,013	1,085	42,339	4,601	566	
Elm	24,142	145	--	-42	--	-42	--	9,399	557	8,842	452	5,312	8,783	94	
Black ash	537	--	--	--	--	--	--	119	--	119	--	--	418	--	
White & green ash	40,128	--	128	55	--	--	55	16,091	1,398	14,693	588	13,155	9,742	368	
Sycamore	22,415	--	--	--	--	--	--	4,028	-23	4,051	1,851	11,799	4,737	--	
Cottonwood	40,940	--	249	82	--	15	67	3,468	427	3,041	237	31,428	5,102	374	
Willow	10,283	--	--	--	--	--	--	452	28	424	205	8,989	217	420	
Hackberry	15,089	--	--	--	--	--	--	2,394	--	2,394	507	9,522	2,665	--	
Bigtooth aspen	30	--	--	--	--	--	--	--	--	--	--	--	30	--	
Quaking aspen	204	--	--	--	--	--	--	204	--	204	--	--	--	--	
River birch	3,115	--	--	--	--	--	--	110	--	110	118	2,607	280	--	
Sweetgum	10,209	--	105	--	--	--	--	1,737	--	1,737	5,660	1,277	1,431	--	
Tupelo	2,192	--	--	--	--	--	--	695	108	587	--	407	209	881	
Black cherry	11,721	--	--	118	--	24	94	5,589	570	5,019	498	1,607	3,909	--	
Black walnut	17,794	--	--	103	--	103	--	7,234	200	7,034	202	3,613	6,441	201	
Butternut	637	--	--	--	--	--	--	310	--	310	--	27	300	--	
Yellow-poplar	18,972	--	162	364	--	167	197	6,613	298	6,315	504	1,753	9,576	--	
Other hardwoods	25,516	--	70	132	--	89	43	9,548	320	9,227	270	11,379	3,629	488	
Total	642,841	145	1,110	2,548	138	862	1,547	338,766	33,251	305,515	21,836	166,064	108,643	3,730	
All species	663,633	7,838	7,478	4,457	223	1,034	3,200	342,471	33,276	309,194	21,836	166,258	109,493	3,804	

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[1] International 1/4 inch rule.

Table 44A. -- Average annual net growth of sawtimber (Doyle rule) on timberland by species group and forest type group/local type, Illinois, 1985-1997

(In thousand board feet) [1]

Species group	All types	Forest type group/local type													
		White-red-jack pine	Loblolly-shortleaf pine	Oak-pine				Oak-hickory			Oak-gum-cypress	Elm-ash-cottonwood	Maple-beech-birch	Non-stocked	
		White pine	Shortleaf pine	Total	Eastern redcedar	Eastern redcedar-hardwood	Oak-pine	Total	Chestnut-scarlet oak	White oak-red oak-hickory	Oak-gum-cypress	Elm-ash-soft maple	Maple-beech	Non-stocked	
Softwoods															
Jack pine	27	27	--	--	--	--	--	--	--	--	--	--	--	--	--
Red pine	662	656	--	--	--	--	--	5	5	--	--	--	--	--	--
White pine	2,895	2,407	--	49	--	--	49	251	6	245	--	--	187	--	--
Loblolly pine	655	--	--	--	--	--	--	629	--	629	--	--	--	26	--
Shortleaf pine	3,688	37	2,627	647	--	43	604	335	--	335	--	--	42	--	--
Baldcypress	342	--	--	--	--	--	--	--	--	--	--	186	156	--	--
Eastern redcedar	589	6	--	65	33	32	--	423	1	422	--	0	95	0	--
Other softwoods	101	34	--	67	--	--	67	--	--	--	--	--	--	--	--
Total	8,958	3,168	2,627	828	33	75	720	1,644	12	1,632	--	186	480	25	--
Hardwoods															
Select white oak	52,694	--	--	56	--	-2	58	46,096	2,043	44,053	326	1,765	4,291	161	--
Other white oak	7,247	--	--	45	--	28	17	6,539	1,818	4,721	148	308	206	--	--
Select red oak	28,495	--	182	10	10	--	--	21,046	594	20,452	542	1,316	5,339	59	--
Other red oak	65,766	--	15	405	46	60	300	49,503	11,171	38,332	4,102	5,583	6,157	--	--
Select hickory	15,328	--	--	26	--	--	26	11,392	582	10,810	235	1,927	1,747	2	--
Other hickory	14,968	--	--	176	15	65	97	12,090	387	11,703	250	755	1,672	24	--
Basswood	3,994	--	--	--	--	--	--	2,097	--	2,097	--	272	1,625	--	--
Beech	634	--	--	--	--	--	--	369	--	369	--	22	242	--	--
Hard maple	9,973	--	--	80	--	80	--	3,894	260	3,634	156	476	5,366	--	--
Soft maple	31,019	--	31	156	--	--	156	3,059	23	3,036	697	24,412	2,407	258	--
Elm	11,873	60	--	-17	--	-17	--	4,564	269	4,294	290	2,588	4,339	48	--
Black ash	233	--	--	--	--	--	--	51	--	51	--	--	182	--	--
White & green ash	20,928	--	54	32	--	--	32	8,300	625	7,675	293	6,874	5,212	163	--
Sycamore	15,583	--	--	--	--	--	--	2,492	-12	2,504	1,306	8,151	3,634	--	--
Cottonwood	27,155	--	117	45	--	17	28	2,265	183	2,082	192	20,248	3,943	345	--
Willow	5,113	--	--	--	--	--	--	267	20	247	85	4,398	120	241	--
Hackberry	8,004	--	--	--	--	--	--	1,192	--	1,192	233	5,100	1,480	--	--
Bigtooth aspen	18	--	--	--	--	--	--	--	--	--	--	--	18	--	--
Quaking aspen	85	--	--	--	--	--	--	85	--	85	--	--	--	--	--
River birch	1,566	--	--	--	--	--	--	46	--	46	58	1,332	131	--	--
Sweetgum	5,388	--	55	--	--	--	--	1,026	--	1,026	2,829	662	817	--	--
Tupelo	1,090	--	--	--	--	--	--	338	45	292	--	226	106	420	--
Black cherry	5,826	--	--	72	--	10	61	2,635	268	2,367	337	836	1,946	--	--
Black walnut	8,623	--	--	53	--	53	--	3,528	104	3,423	87	1,728	3,135	93	--
Butternut	283	--	--	--	--	--	--	143	--	143	--	14	127	--	--
Yellow-poplar	11,498	--	133	189	--	78	111	3,825	186	3,639	321	1,266	5,764	--	--
Other hardwoods	12,823	--	29	55	--	37	18	4,733	182	4,551	129	5,802	1,784	291	--
Total	366,207	60	616	1,383	71	409	903	191,574	18,750	172,824	12,616	96,061	61,792	2,105	--
All species	375,166	3,228	3,243	2,211	104	484	1,623	193,217	18,762	174,455	12,616	96,247	62,273	2,130	--

All table cells without observations in the inventory sample are indicated by --. Cells with observations smaller than the precision reported in the table are shown as zero. Columns and rows may not add to their totals due to rounding.

[1] Doyle rule.

Table 45. -- Current annual net growth of growing stock on timberland by species group and forest type group/local type, Illinois, 1997

(In thousand cubic feet)

Species group	All types	Forest type group/local type												
		White-red-jack pine	Loblolly-shortleaf pine	Oak-pine				Oak-hickory			Oak-gum-cypress	Elm-ash-cottonwood	Maple-beech-birch	Non-stocked
		White pine	Shortleaf pine	Total	Eastern redcedar	Eastern redcedar-hardwood	Oak-pine	Total	Chestnut-scarlet oak	White oak-red oak-hickory	Oak-gum-cypress	Elm-ash-soft maple	Maple-beech	Non-stocked
Softwoods														
Jack pine	89	89	--	--	--	--	--	--	--	--	--	--	--	--
Red pine	460	435	--	3	--	--	3	22	6	16	--	--	--	--
White pine	1,788	1,376	--	270	--	--	270	95	4	90	--	--	48	--
Loblolly pine	57	--	--	--	--	--	--	42	--	42	--	15	--	--
Shortleaf pine	1,338	60	971	183	--	--	183	110	6	104	--	--	14	--
White spruce	32	19	--	14	--	--	14	--	--	--	--	--	--	--
Baldcypress	169	--	--	--	--	--	--	5	--	5	80	43	41	--
Eastern redcedar	599	7	3	156	24	117	14	349	144	205	9	30	46	--
Other softwoods	100	36	2	60	--	--	60	3	--	3	--	--	--	--
Total	4,632	2,021	976	685	24	117	543	625	160	465	88	89	148	--
Hardwoods														
Select white oak	19,106	1	--	44	11	16	16	17,098	494	16,603	138	545	1,279	--
Other white oak	3,028	--	--	45	3	26	16	2,666	800	1,867	86	135	96	--
Select red oak	9,831	--	3	12	12	--	--	7,895	321	7,575	249	330	1,342	--
Other red oak	26,717	11	20	235	32	72	131	20,915	5,326	15,589	1,472	1,513	2,550	--
Select hickory	8,557	1	1	28	--	8	21	7,088	305	6,784	64	564	810	--
Other hickory	7,416	--	--	78	13	37	27	6,266	282	5,984	40	378	653	--
Basswood	1,899	--	--	--	--	--	--	520	23	498	--	21	1,357	--
Beech	307	--	--	--	--	--	--	33	--	33	--	--	274	--
Hard maple	5,780	--	2	--	--	--	--	2,627	149	2,478	16	288	2,847	--
Soft maple	16,827	--	0	87	--	--	87	1,017	33	984	190	14,287	1,245	--
Elm	9,885	30	20	41	--	30	11	3,489	224	3,264	110	2,254	3,941	--
Black ash	102	--	--	--	--	--	--	5	--	5	--	29	68	--
White & green ash	10,886	--	21	12	--	8	4	4,076	349	3,727	167	3,917	2,693	--
Sycamore	4,647	19	3	8	--	8	--	868	31	837	226	2,683	840	--
Cottonwood	7,413	--	106	--	--	--	--	723	66	658	46	5,882	655	--
Willow	3,403	14	6	--	--	--	--	72	10	62	97	3,104	109	--
Hackberry	4,463	--	8	--	--	--	--	871	16	856	68	2,741	774	--
Balsam poplar	14	--	--	--	--	--	--	--	--	--	--	14	--	--
Bigtooth aspen	61	--	--	--	--	--	--	--	--	--	--	--	61	--
Quaking aspen	64	--	--	--	--	--	--	50	--	50	--	14	--	--
Paper birch	3	--	--	--	--	--	--	--	--	--	--	3	--	--
River birch	1,485	--	--	13	--	--	13	81	35	46	48	1,229	114	--
Sweetgum	2,644	--	36	2	--	--	2	677	--	677	1,284	340	305	--
Tupelo	268	--	5	2	--	2	--	141	6	135	10	52	58	--
Black cherry	4,399	32	19	5	--	--	5	2,067	302	1,765	96	464	1,715	--
Black walnut	4,602	--	11	7	--	--	7	1,819	177	1,642	3	835	1,926	--
Butternut	141	--	--	--	--	--	--	34	--	34	11	17	79	--
Yellow-poplar	3,389	7	137	121	--	93	28	807	--	807	183	201	1,933	--
Other hardwoods	8,271	1	13	24	4	9	11	3,914	138	3,776	100	3,119	1,101	--
Total	165,607	118	412	763	75	308	380	85,823	9,087	76,735	4,705	44,960	28,826	--
All species	170,239	2,139	1,388	1,448	99	425	924	86,447	9,248	77,200	4,794	45,048	28,975	--

All table cells without observations in the inventory sample are indicated by --. Cells with observations smaller than the precision reported in the table are shown as zero. Columns and rows may not add to their totals due to rounding.

Table 46. -- Current annual net growth of sawtimber (International 1/4 inch rule) on timberland by species group and forest type group/local type, Illinois, 1997

(In thousand board feet) [1]

Species group	All types	Forest type group/local type												
		White-red-jack pine	Loblolly-shortleaf pine	Oak-pine				Oak-hickory			Oak-gum-cypress	Elm-ash-cottonwood	Maple-beech-birch	Non-stocked
		White pine	Shortleaf pine	Total	Eastern redcedar	Eastern redcedar-hardwood	Oak-pine	Total	Chestnut-scarlet oak	White oak-red oak-hickory	Oak-gum-cypress	Elm-ash-soft ample	Maple-beech	Non-stocked
Softwoods														
Jack pine	52	52	--	--	--	--	--	--	--	--	--	--	--	--
Red pine	979	958	--	--	--	--	--	21	21	--	--	--	--	--
White pine	4,937	4,410	--	133	--	--	133	292	23	270	--	--	103	--
Loblolly pine	259	--	--	--	--	--	--	180	--	180	--	79	--	--
Shortleaf pine	5,050	89	3,762	695	--	--	695	428	--	428	--	--	75	--
Baldcypress	879	--	--	--	--	--	--	--	--	--	439	220	220	--
Eastern redcedar	767	17	--	229	31	198	--	444	30	414	32	25	19	--
Other softwoods	146	72	--	59	--	--	59	15	--	15	--	--	--	--
Total	13,070	5,599	3,762	1,116	31	198	886	1,381	73	1,307	471	324	417	--
Hardwoods														
Select white oak	69,088	--	--	66	--	--	66	62,293	1,727	60,565	492	1,720	4,518	--
Other white oak	11,162	--	--	106	--	30	76	9,720	3,058	6,662	394	545	397	--
Select red oak	40,437	--	--	59	59	--	--	33,266	1,285	31,981	896	969	5,247	--
Other red oak	92,065	--	29	929	102	222	605	73,240	20,646	52,594	5,571	5,115	7,182	--
Select hickory	23,555	--	--	47	--	--	47	19,087	698	18,388	56	1,876	2,489	--
Other hickory	21,422	--	--	238	--	104	135	18,438	756	17,682	177	884	1,684	--
Basswood	6,166	--	--	--	--	--	--	1,717	--	1,717	--	90	4,360	--
Beech	1,305	--	--	--	--	--	--	121	--	121	--	--	1,184	--
Hard maple	13,587	--	--	--	--	--	--	5,963	496	5,468	69	822	6,733	--
Soft maple	50,525	--	--	363	--	--	363	2,418	43	2,375	651	44,195	2,898	--
Elm	12,132	131	--	--	--	--	--	3,922	206	3,715	13	2,799	5,267	--
Black ash	214	--	--	--	--	--	--	--	--	--	--	--	214	--
White & green ash	28,213	--	43	37	--	37	--	11,567	814	10,753	440	8,658	7,468	--
Sycamore	17,188	--	--	--	--	--	--	3,205	102	3,103	653	10,015	3,313	--
Cottonwood	32,831	--	431	--	--	--	--	3,285	310	2,975	187	25,884	3,045	--
Willow	7,756	--	--	--	--	--	--	273	40	232	431	6,727	325	--
Hackberry	9,368	--	--	--	--	--	--	1,697	--	1,697	127	5,936	1,608	--
Bigtooth aspen	236	--	--	--	--	--	--	--	--	--	--	--	236	--
Quaking aspen	133	--	--	--	--	--	--	133	--	133	--	--	--	--
River birch	3,777	--	--	--	--	--	--	89	--	89	147	3,166	375	--
Sweetgum	7,697	--	101	--	--	--	--	1,884	--	1,884	3,718	971	1,023	--
Tupelo	416	--	16	--	--	--	--	142	28	114	--	115	143	--
Black cherry	8,617	--	84	--	--	--	--	4,256	451	3,804	156	883	3,239	--
Black walnut	12,032	--	35	--	--	--	--	4,648	286	4,362	--	2,502	4,846	--
Butternut	228	--	--	--	--	--	--	99	--	99	--	38	92	--
Yellow-poplar	13,393	--	621	228	--	228	--	3,608	--	3,608	679	995	7,263	--
Other hardwoods	15,567	--	--	--	--	--	--	6,443	282	6,161	114	7,433	1,577	--
Total	499,109	131	1,360	2,073	161	620	1,291	271,510	31,228	240,282	14,971	132,337	76,728	--
All species	512,178	5,729	5,122	3,189	192	818	2,178	272,891	31,302	241,589	15,442	132,661	77,144	--

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[1] International 1/4 inch rule.

Table 46A. -- Current annual net growth of sawtimber (Doyle rule) on timberland by species group and forest type group/local type, Illinois, 1997

(In thousand board feet) [1]

Species group	All types	Forest type group/local type													
		White-red-jack pine	Loblolly-shortleaf pine	Oak-pine				Oak-hickory			Oak-gum-cypress	Elm-ash-cottonwood	Maple-beech-birch	Non-stocked	
		White pine	Shortleaf pine	Total	Eastern redcedar	Eastern redcedar-hardwood	Oak-pine	Total	Chestnut-scarlet oak	White oak-red oak-hickory	Oak-gum-cypress	Elm-ash-soft ample	Maple-beech	Non-stocked	
Softwoods															
Jack pine	18	18	--	--	--	--	--	--	--	--	--	--	--	--	--
Red pine	354	344	--	--	--	--	--	10	10	--	--	--	--	--	--
White pine	2,142	1,921	--	46	--	--	46	140	11	130	--	--	35	--	--
Loblolly pine	134	--	--	--	--	--	--	83	--	83	--	51	--	--	--
Shortleaf pine	2,243	31	1,700	284	--	--	284	197	--	197	--	--	32	--	--
Baldcypress	760	--	--	--	--	--	--	--	--	--	365	208	186	--	--
Eastern redcedar	307	6	--	88	14	74	--	186	14	172	11	9	6	--	--
Other softwoods	58	32	--	20	--	--	20	5	--	5	--	--	--	--	--
Total	6,016	2,352	1,700	438	14	74	350	623	35	587	376	268	260	--	--
Hardwoods															
Select white oak	41,444	--	--	46	--	--	46	37,246	1,062	36,184	317	1,074	2,761	--	--
Other white oak	6,306	--	--	65	--	13	53	5,359	1,744	3,615	213	428	242	--	--
Select red oak	24,897	--	--	25	25	--	--	20,494	821	19,673	484	609	3,285	--	--
Other red oak	54,611	--	21	542	52	120	370	43,237	12,091	31,146	3,304	3,150	4,357	--	--
Select hickory	12,493	--	--	24	--	--	24	10,072	345	9,727	29	1,047	1,321	--	--
Other hickory	10,933	--	--	135	--	43	92	9,431	367	9,064	103	461	803	--	--
Basswood	3,552	--	--	--	--	--	--	900	--	900	--	44	2,608	--	--
Beech	819	--	--	--	--	--	--	79	--	79	--	--	740	--	--
Hard maple	7,164	--	--	--	--	--	--	3,077	278	2,798	49	410	3,627	--	--
Soft maple	28,768	--	--	175	--	--	175	1,389	33	1,356	359	25,321	1,524	--	--
Elm	5,922	54	--	--	--	--	--	1,916	104	1,812	6	1,371	2,576	--	--
Black ash	95	--	--	--	--	--	--	--	--	--	--	--	95	--	--
White & green ash	14,831	--	18	15	--	15	--	6,127	399	5,728	226	4,402	4,043	--	--
Sycamore	11,559	--	--	--	--	--	--	2,157	52	2,104	340	6,777	2,285	--	--
Cottonwood	21,555	--	200	--	--	--	--	2,103	129	1,974	137	16,872	2,243	--	--
Willow	3,972	--	--	--	--	--	--	155	29	126	200	3,459	158	--	--
Hackberry	5,131	--	--	--	--	--	--	883	--	883	61	3,266	921	--	--
Bigtooth aspen	132	--	--	--	--	--	--	--	--	--	--	--	132	--	--
Quaking aspen	55	--	--	--	--	--	--	55	--	55	--	--	--	--	--
River birch	1,947	--	--	--	--	--	--	37	--	37	71	1,657	182	--	--
Sweetgum	4,147	--	57	--	--	--	--	1,061	--	1,061	1,868	592	569	--	--
Tupelo	199	--	7	--	--	--	--	65	12	54	--	58	69	--	--
Black cherry	4,308	--	55	--	--	--	--	2,050	217	1,833	75	506	1,622	--	--
Black walnut	6,106	--	15	--	--	--	--	2,363	165	2,198	--	1,262	2,467	--	--
Butternut	107	--	--	--	--	--	--	49	--	49	--	19	38	--	--
Yellow-poplar	7,939	--	423	109	--	109	--	2,088	--	2,088	429	658	4,233	--	--
Other hardwoods	7,899	--	--	--	--	--	--	3,143	166	2,977	63	3,891	801	--	--
Total	286,891	54	795	1,137	77	300	760	155,538	18,013	137,524	8,334	77,332	43,701	--	--
All species	292,907	2,406	2,495	1,575	91	374	1,110	156,160	18,048	138,112	8,710	77,600	43,961	--	--

All table cells without observations in the inventory sample are indicated by --. Cells with observations smaller than the precision reported in the table are shown as zero. Columns and rows may not add to their totals due to rounding.

[1] Doyle rule.

Table 47. -- Current annual net growth, current annual mortality, and current annual removals of growing stock and sawtimber (International 1/4 inch rule) on timberland by species group, Illinois, 1997

	Growing stock			Sawtimber		
Species group	Current annual net growth[1] 1997	Current annual mortality 1997	Current annual removals[2] 1997	Current annual net growth[1] 1997	Current annual mortality 1997	Current annual removals[2] 1997
	(In thousand cubic feet)			(In thousand board feet)[3]		
Softwoods						
Jack pine	89	15	--	52	1	--
Red pine	460	169	72	979	140	77
White pine	1,788	699	60	4,937	2,564	316
Loblolly pine	57	34	--	259	173	--
Shortleaf pine	1,338	905	932	5,050	2,879	2,685
White spruce	32	8	--	72	12	--
Tamarack	--	--	--	--	--	--
Baldcypress	169	161	--	879	805	--
Eastern redcedar	599	218	151	767	803	393
Other softwoods	100	39	120	74	15	215
Total softwoods	4,632	2,250	1,336	13,070	7,392	3,686
Hardwoods						
Select white oak	19,106	7,765	13,419	69,088	29,251	63,656
Other white oak	3,028	2,259	2,185	11,162	9,016	10,899
Select red oak	9,831	4,218	4,975	40,437	17,716	23,808
Other red oak	26,717	14,424	16,482	92,065	52,612	79,969
Select hickory	8,557	4,237	2,959	23,555	14,328	11,883
Other hickory	7,416	2,211	1,832	21,422	6,602	7,479
Basswood	1,899	983	572	6,166	3,541	2,198
Beech	307	129	189	1,305	546	698
Hard maple	5,780	2,881	2,026	13,587	11,178	9,415
Soft maple	16,827	7,743	5,223	50,525	26,413	22,814
Elm	9,885	13,334	2,175	12,132	30,919	5,815
Black ash	102	23	98	214	35	491
White & green ash	10,886	5,606	4,491	28,213	16,808	18,585
Sycamore	4,647	2,319	1,863	17,188	9,328	8,648
Cottonwood	7,413	5,131	5,145	32,831	22,435	26,150
Willow	3,403	1,302	351	7,756	3,834	1,486
Hackberry	4,463	3,566	1,214	9,368	12,516	4,396
Balsam poplar	14	6	--	32	7	--
Bigtooth aspen	61	17	11	236	46	56
Quaking aspen	64	34	1	133	44	7
Paper birch	3	1	--	--	--	--
River birch	1,485	585	930	3,777	1,726	3,205
Sweetgum	2,644	1,097	326	7,697	3,271	1,609
Tupelo	268	242	119	416	764	526
Black cherry	4,399	2,292	1,653	8,617	5,826	5,761
Black walnut	4,602	1,176	1,322	12,032	2,813	6,878
Butternut	141	51	31	228	70	--
Yellow-poplar	3,389	376	1,529	13,393	1,425	7,680
Other hardwoods	8,271	6,108	2,742	15,534	11,899	6,495
Total hardwoods	165,607	90,119	73,863	499,109	294,969	330,607
All species	170,239	92,368	75,199	512,178	302,361	334,293

All table cells without observations in the inventory sample are indicated by --. Cells with observations smaller than the precision reported in the table are shown as zero. Columns and rows may not add to their totals due to rounding.

[1] An estimate of current gross growth may be computed by adding current mortality to current net growth.

[2] Based on data from a 1997 pulpwood survey, a 1996 survey of other primary wood using mills, a 1997 residential fuelwood survey, regional logging utilization studies, and land-use change estimates from the new inventory.

[3] International 1/4 inch rule.

Table 47A. -- Current annual net growth, current annual mortality, and current annual removals of growing stock and sawtimber (Doyle rule) on timberland by species group, Illinois, 1997

	Growing stock			Sawtimber		
Species group	Current annual net growth[1] 1997	Current annual mortality 1997	Current annual removals[2] 1997	Current annual net growth[1] 1997	Current annual mortality 1997	Current annual removals[2] 1997
	(In thousand cubic feet)			(In thousand board feet)[3]		
Softwoods						
Jack pine	89	15	--	18	0	--
Red pine	460	169	72	354	49	77
White pine	1,788	699	60	2,142	1,298	316
Loblolly pine	57	34	--	134	124	--
Shortleaf pine	1,338	905	932	2,243	1,477	2,685
White spruce	32	8	--	32	5	--
Tamarack	--	--	--	--	--	--
Bald Cypress	169	161	--	760	765	--
Eastern redcedar	599	218	151	307	376	393
Other softwoods	100	39	120	26	5	215
Total softwoods	4,632	2,250	1,336	6,016	4,101	3,686
Hardwoods						
Select white oak	19,106	7,765	13,419	41,444	22,913	63,656
Other white oak	3,028	2,259	2,185	6,306	5,428	10,899
Select red oak	9,831	4,218	4,975	24,897	13,322	23,808
Other red oak	26,717	14,424	16,482	54,611	38,174	79,969
Select hickory	8,557	4,237	2,959	12,493	9,523	11,883
Other hickory	7,416	2,211	1,832	10,933	3,968	7,479
Basswood	1,899	983	572	3,552	1,946	2,198
Beech	307	129	189	819	381	698
Hard maple	5,780	2,881	2,026	7,164	6,892	9,415
Soft maple	16,827	7,743	5,223	28,768	21,031	22,814
Elm	9,885	13,334	2,175	5,922	16,202	5,815
Black ash	102	23	98	95	16	491
White & green ash	10,886	5,606	4,491	14,831	9,973	18,585
Sycamore	4,647	2,319	1,863	11,559	8,495	8,648
Cottonwood	7,413	5,131	5,145	21,555	17,853	26,150
Willow	3,403	1,302	351	3,972	2,320	1,486
Hackberry	4,463	3,566	1,214	5,131	9,719	4,396
Balsam poplar	14	6	--	13	3	--
Bigtooth aspen	61	17	11	132	26	56
Quaking aspen	64	34	1	55	18	7
Paper birch	3	1	--	--	--	--
River birch	1,485	585	930	1,947	966	3,205
Sweetgum	2,644	1,097	326	4,147	1,955	1,609
Tupelo	268	242	119	199	611	526
Black cherry	4,399	2,292	1,653	4,308	3,126	5,761
Black walnut	4,602	1,176	1,322	6,106	1,410	6,878
Butternut	141	51	31	107	32	--
Yellow-poplar	3,389	376	1,529	7,939	989	7,680
Other hardwoods	8,271	6,108	2,742	7,885	5,945	6,495
Total hardwoods	165,607	90,119	73,863	286,891	203,237	330,607
All species	170,239	92,368	75,199	292,907	207,338	334,293

All table cells without observations in the inventory sample are indicated by --. Cells with observations smaller than the precision reported in the table are shown as zero. Columns and rows may not add to their totals due to rounding.

[1] An estimate of current gross growth may be computed by adding current mortality to current net growth.

[2] Based on data from a 1997 pulpwood survey, a 1996 survey of other primary wood using mills, a 1996 residential fuelwood survey, regional logging utilization studies, and land-use change estimates from the new inventory.

[3] Doyle rule.

Table 48. -- Average annual removals for 1962 to 1985 and 1985 to 1997, and current annual removals for 1997 from growing stock and sawtimber (International 1/4-inch rule) on timberland by Forest Survey Unit and softwoods and hardwoods, Illinois

Forest Survey Unit and softwoods and hardwoods	Growing stock			Sawtimber		
	Average annual removals	Average annual removals	Current annual removals	Average annual removals	Average annual removals	Current annual removals
	1962-1985[1]	1985-1997[1]	1997[2]	1962-1985[1]	1985-1997[1]	1997[2]
	(In thousand cubic feet)			(In thousand board feet)[3]		
Southern Unit						
Softwoods	787	768	955	4,253	2,446	2,777
Hardwoods	16,147	20,910	20,734	70,771	83,579	92,234
Total	16,934	21,678	21,689	75,024	86,026	95,010
Claypan Unit						
Softwoods	306	--	--	1,037	--	1
Hardwoods	30,994	20,501	27,493	130,525	80,218	130,084
Total	31,300	20,501	27,494	131,562	80,218	130,085
Prairie Unit						
Softwoods	70	253	381	--	478	908
Hardwoods	4,577	24,439	25,636	21,825	92,795	108,289
Total	4,647	24,692	26,017	21,825	93,274	109,197
All Units						
Softwoods	1,182	1,021	1,336	5,290	2,925	3,686
Hardwoods	71,408	65,850	73,863	308,751	256,593	330,607
Total	72,590	66,871	75,199	314,041	259,518	334,293

All table cells without observations in the inventory sample are indicated by --. Cells with observations smaller than the precision reported in the table are shown as zero. Columns and rows may not add to their totals due to rounding.

[1] Average of field plot level removals between the study periods.

[2] Based on data from mill surveys and regional logging utilization studies and land-use change estimates from the field inventory. The last year for a complete timber product output survey is 1996.

[3] International 1/4 inch rule.

Table 48A. -- Average annual removals for 1985 to 1997, and current annual removals for 1997 from growing stock and sawtimber (Doyle rule) on timberland by Forest Survey Unit and softwoods and hardwoods, Illinois

Forest Survey Unit and softwoods and hardwoods	Growing stock		Sawtimber	
	Average annual removals	Current annual removals	Average annual removals	Current annual removals
	1985-1997 [1]	1997 [2]	1985-1997 [1]	1997 [2]
	(In thousand cubic feet)		(In thousand board feet) [3]	
Southern Unit				
Softwoods	768	955	1,204	2,777
Hardwoods	20,910	20,734	53,634	92,234
Total	21,678	21,689	54,838	95,010
Claypan Unit				
Softwoods	--	--	--	1
Hardwoods	20,501	27,493	54,245	130,084
Total	20,501	27,494	54,245	130,085
Prairie Unit				
Softwoods	253	381	183	908
Hardwoods	24,439	25,636	66,750	108,289
Total	24,692	26,017	66,933	109,197
All Units				
Softwoods	1,021	1,336	1,387	3,686
Hardwoods	65,850	73,863	174,628	330,607
Total	66,871	75,199	176,015	334,293

All table cells without observations in the inventory sample are indicated by --. Cells with observations smaller than the precision reported in the table are shown as zero. Columns and rows may not add to their totals due to rounding.

[1] Average of field plot level removals between the study periods.

[2] Based on data from mill surveys and regional logging utilization studies and land-use change estimates from the field inventory. The last year for a complete timber product output survey is 1996.

[3] Doyle rule.

Table 49. -- Average annual mortality for 1962 to 1985 and 1985 to 1997, and current annual mortality for 1997 of growing stock and sawtimber (International 1/4 inch rule) on timberland by Forest Survey Unit and softwoods and hardwoods, Illinois

Forest Survey Unit and softwoods and hardwoods	Growing stock			Sawtimber		
	Average annual mortality [1]	Average annual mortality	Current annual mortality	Average annual mortality [1]	Average annual mortality	Current annual mortality
	1962-1985	1985-1997	1997	1962-1985	1985-1997	1997
	(In thousand cubic feet)			(In thousand board feet) [2]		
Southern Unit						
Softwoods	--	640	1,268	--	1,952	4,443
Hardwoods	--	18,895	23,001	--	47,676	74,252
Total	--	19,534	24,269	--	49,628	78,695
Claypan Unit						
Softwoods	--	130	150	--	525	525
Hardwoods	--	23,208	29,784	--	63,288	98,250
Total	--	23,338	29,934	--	63,813	98,775
Prairie Unit						
Softwoods	--	642	832	--	1,571	2,424
Hardwoods	--	29,944	37,334	--	79,543	122,468
Total	--	30,585	38,166	--	81,114	124,892
All Units						
Softwoods	2,180	1,411	2,250	4,532	4,049	7,392
Hardwoods	35,345	72,046	90,119	96,717	190,507	294,969
Total	37,525	73,457	92,368	101,249	194,555	302,361

All table cells without observations in the inventory sample are indicated by --. Cells with observations smaller than the precision reported in the table are shown as zero. Columns and rows may not add to their totals due to rounding.

[1] Data are not available on a unit basis.

[2] International 1/4 inch rule.

Table 49A. -- Average annual mortality for 1985 to 1997, and current annual mortality for 1997 of growing stock and sawtimber (Doyle rule) on timberland by Forest Survey Unit and softwoods and hardwoods, Illinois

Forest Survey Unit and softwoods and hardwoods	Growing stock		Sawtimber	
	Average annual mortality	Current annual mortality	Average annual mortality	Current annual mortality
	1985-1997	1997	1985-1997	1997
	(In thousand cubic feet)		(In thousand board feet)[2]	
Southern Unit				
Softwoods	640	1,268	1,200	2,647
Hardwoods	18,895	23,001	32,139	49,774
Total	19,534	24,269	33,339	52,422
Claypan Unit				
Softwoods	130	150	222	220
Hardwoods	23,208	29,784	42,312	68,344
Total	23,338	29,934	42,534	68,564
Prairie Unit				
Softwoods	642	832	743	1,233
Hardwoods	29,944	37,334	55,620	85,119
Total	30,585	38,166	56,364	86,351
All Units				
Softwoods	1,411	2,250	2,166	4,101
Hardwoods	72,046	90,119	130,071	203,237
Total	73,457	92,368	132,237	207,338

All table cells without observations in the inventory sample are indicated by --. Cells with observations smaller than the precision reported in the table are shown as zero. Columns and rows may not add to their totals due to rounding.

[1] Data are not available on a unit basis.
[2] Doyle rule.

Table 50. – Current annual timber removals of growing stock and sawtimber on timberland by species group, product, logging residue, and other removals, Illinois, 1997

Species group	Growing stock									Sawtimber								
		Removals for products (items)						Nonproduct removals			Removals for products (items)						Nonproduct removals	
	All removals	All product removals	Saw logs	Veneer logs	Pulp-wood	Fuel-wood	Misc. products	Logging residue	Other removals	All removals	All product removals	Saw logs	Veneer logs	Pulp-wood	Fuel-wood	Misc. products	Logging residue	Other removals
	(In thousand cubic feet)									(In thousand board feet, International 1/4 inch rule)								
Softwoods																		
Jack pine	0	0	–	–	–	0	–	0	–	0	0	–	–	–	0	–	–	–
Red pine	72	54	–	–	52	2	–	1	17	77	77	–	–	72	5	–	–	–
White pine	60	54	52	–	–	2	–	6	–	316	308	301	–	–	7	–	8	–
Shortleaf pine	932	306	–	–	306	0	–	4	623	2,685	422	–	–	421	0	–	–	2,263
Eastern redcedar	151	11	8	–	–	–	3	0	140	393	37	35	–	–	–	2	0	357
Other softwoods	120	0	–	–	–	0	–	0	120	215	1	–	–	–	1	–	–	214
Total softwoods	1,336	426	60	–	358	4	3	10	901	3,686	844	336	–	493	13	2	8	2,834
Hardwoods																		
Select white oak	13,419	8,646	6,824	389	138	939	356	2,166	2,607	63,656	47,276	40,031	2,845	528	2,788	1,083	6,874	9,506
Other white oak	2,185	1,600	1,326	31	43	94	107	422	162	10,899	8,814	7,778	225	177	290	343	1,320	764
Select red oak	4,975	3,124	2,707	18	50	229	121	827	1,025	23,808	16,996	15,880	135	166	683	131	2,618	4,193
Other red oak	16,482	10,552	9,429	36	158	524	404	2,874	3,056	79,969	58,171	55,317	264	567	1,585	438	9,102	12,696
Select hickory	2,959	1,513	826	1	84	522	80	314	1,132	11,883	6,858	4,931	6	189	1,642	90	843	4,182
Other hickory	1,832	1,037	723	1	71	175	66	298	498	7,479	5,113	4,261	5	224	550	72	799	1,567
Basswood	572	177	172	–	–	5	–	54	341	2,198	1,065	1,048	–	–	17	–	149	984
Beech	189	80	73	–	7	–	–	23	86	698	459	445	–	14	–	–	64	176
Hard maple	2,026	1,236	1,053	25	82	40	36	304	486	9,415	6,837	6,199	183	288	127	39	721	1,857
Soft maple	5,223	2,738	2,216	7	239	207	70	635	1,850	22,814	14,695	13,042	50	871	657	74	1,494	6,625
Elm	2,175	737	239	1	265	221	12	89	1,348	5,815	3,159	1,458	6	971	711	14	233	2,423
Black ash	98	78	65	0	1	10	2	21	–	491	434	398	4	2	29	2	57	–
White & green ash	4,491	2,234	1,684	18	165	284	82	546	1,711	18,585	12,040	10,263	135	674	879	89	1,497	5,048
Sycamore	1,863	838	734	16	17	13	59	238	787	8,648	4,743	4,472	114	52	42	63	653	3,253
Cottonwood	5,145	3,384	2,644	–	430	67	243	435	1,326	26,150	18,735	17,034	–	1,225	217	259	1,051	6,364
Hackberry	1,214	511	305	–	148	–	59	110	592	4,396	2,566	1,859	–	645	–	63	287	1,544
River birch	930	356	149	0	195	–	12	59	515	3,205	1,774	908	3	851	–	13	153	1,278
Sweetgum	326	169	157	8	5	–	–	50	106	1,609	1,033	954	57	22	–	–	141	434
Tupelo	119	77	73	–	4	–	–	23	19	526	462	445	–	17	–	–	64	–
Black cherry	1,653	490	374	7	–	97	12	119	1,044	5,761	2,657	2,278	52	–	314	13	330	2,774
Black walnut	1,322	893	705	124	–	38	25	80	349	6,878	5,599	4,577	883	–	109	29	294	985
Yellow-poplar	1,529	1,081	890	31	87	0	71	294	155	7,680	6,069	5,427	230	333	0	79	807	804
Sassafras	367	10	10	–	–	–	–	3	354	586	60	60	–	–	–	–	9	517
Other hardwoods	2,769	1,009	349	1	38	546	75	105	1,655	7,458	4,189	2,067	7	150	1,768	197	248	3,020
Total hardwoods	73,863	42,571	33,727	716	2,227	4,011	1,891	10,088	21,204	330,607	229,803	201,133	5,204	7,967	12,407	3,092	29,808	70,996
All species	75,199	42,997	33,787	716	2,585	4,015	1,894	10,097	22,105	334,293	230,647	201,468	5,204	8,460	12,420	3,094	29,816	73,829

All table cells without observations are indicated by –. Cells with observations smaller than the precision reported in the table are shown as zero. Columns and rows may not add to their totals due to rounding.

Removals data are based on the Illinois 1996 timber products output study, the 1997 pulpwood study, and the 1996 fuelwood study. The average date of the data is 1996.

Table 51. -- Total volume of wood fiber used for each primary product by softwoods and hardwoods, and source of material, Illinois, 1997

Product by softwoods and hardwoods	Standard units	Total		Roundwood products				Plant byproducts	
				Growing stock		Non-growing stock			
		Number of units	Thousand cubic feet	Number of units	Thousand cubic feet	Number of units	Thousand cubic feet	Number of units	Thousand cubic feet
Saw logs									
Softwoods	Thousand board feet [1]	337	60	337	60	1	0	--	--
Hardwoods		215,698	35,979	201,853	33,727	13,844	2,252	--	--
Total		216,035	36,039	202,190	33,787	13,845	2,253	--	--
Veneer logs									
Softwoods	Thousand board feet [1]	--	--	--	--	--	--	--	--
Hardwoods		5,334	734	5,204	716	130	18	--	--
Total		5,334	734	5,204	716	130	18	--	--
Pulpwood [2]									
Softwoods	Standard cords [3]	4,624	365	4,536	358	88	7	--	--
Hardwoods		88,035	6,955	28,191	2,227	12,866	1,016	46,977	3,711
Total		92,658	7,320	32,727	2,585	12,954	1,023	46,977	3,711
Fuelwood									
Softwoods	Standard cords [3]	3,648	255	58	4	3,541	248	50	3
Hardwoods		931,395	65,198	57,301	4,011	781,320	54,692	92,775	6,494
Total		935,044	65,453	57,358	4,015	784,861	54,940	92,825	6,498
Miscellaneous products									
Softwoods	Thousand cubic feet	56	56	3	3	15	15	38	38
Hardwoods		10037	10037	1891	1891	943	943	7,203	7,203
Total		10,093	10,093	1894	1894	957	957	7,241	7,241
All products									
Softwoods	Thousand cubic feet		737		426		269		41
Hardwoods			118,902		42,571		58,922		17,408
Total			119,638		42,997		59,192		17,450

[1] International 1/4 inch rule.

[2] Includes roundwood for wood pulp, and plant byproducts for wood pulp, chip board, wafer board, particle board, engineered lumber, etc.

[3] 128 cubic feet; includes wood, bark, and air space.

All table cells without observations are indicated by --. Cells with observations smaller than the precision reported in the table are shown as zero. Columns and rows may not add to their totals due to rounding.

Removals data are based on the Illinois 1996 timber products output study, the 1997 pulpwood study, and the 1996 fuelwood study. The average date of the data is 1996.

Table 52. -- Output of roundwood products by product, softwoods and hardwoods, and source of material, Illinois, 1997

(In thousand cubic feet)

Product by softwoods and hardwoods	All sources	Growing stock			Non-growing stock
		Total	Sawtimber	Poletimber	
Saw logs					
Softwoods	60	60	60	--	0
Hardwoods	35,979	33,727	33,680	47	2,252
Total	36,039	33,787	33,740	47	2,253
Veneer logs					
Softwoods	--	--	--	--	--
Hardwoods	734	716	716	--	18
Total	734	716	716	--	18
Pulpwood					
Softwoods	365	358	95	264	7
Hardwoods	3,244	2,227	1,719	508	1,016
Total	3,609	2,585	1,814	771	1,023
Fuelwood					
Softwoods	252	4	2	2	248
Hardwoods	58,703	4,011	2,397	1,614	54,692
Total	58,955	4,015	2,399	1,616	54,940
Miscellaneous products					
Softwoods	18	3	1	2	15
Hardwoods	2,834	1,891	539	1,352	943
Total	2,852	1,894	540	1,354	957
All products					
Softwoods	695	426	158	268	269
Hardwoods	101,493	42,571	39,050	3,521	58,922
Total	102,189	42,997	39,209	3,788	59,192

All table cells without observations are indicated by --. Cells with observations smaller than the precision reported in the table are shown as zero. Columns and rows may not add to their totals due to rounding.

Removals data are based on the Illinois 1996 timber products output study, the 1997 pulpwood study, and the 1996 fuelwood study. The average date of the data is 1996.

Table 53. -- Timber products from roundwood by species group and product, Illinois, 1997

Species group	All products	Saw logs		Veneer logs		Pulpwood		Fuelwood		Misc. products
	Thousand cubic feet	*Thousand board feet*[1]	*Thousand cubic feet*	*Thousand board feet*[1]	*Thousand cubic feet*	*Standard cords*[2]	*Thousand cubic feet*	*Standard cords*[2]	*Thousand cubic feet*	*Thousand cubic feet*
Softwoods										
Jack pine	17	--	--	--	--	--	--	248	17	--
Red pine	117	--	--	--	--	675	53	907	63	--
White pine	140	301	52	--	--	--	--	1,246	87	--
Loblolly pine	0	--	--	--	--	--	--	0	0	--
Shortleaf pine	330	--	--	--	--	3,949	312	251	18	--
Eastern redcedar	81	36	8	--	--	--	--	792	55	18
Other softwoods	11	--	--	--	--	--	--	155	11	--
Total softwoods	695	337	60	--	--	4,624	365	3,598	252	18
Hardwoods										
Select white oak	26,934	43,351	7,335	2,845	389	2,584	204	264,591	18,521	484
Other white oak	2,456	8,424	1,425	225	31	809	64	11,429	800	135
Select red oak	7,294	17,198	2,910	135	18	903	71	58,879	4,121	173
Other red oak	18,818	59,905	10,136	264	36	2,918	230	112,068	7,845	571
Select hickory	4,860	5,337	875	6	1	1,439	114	53,555	3,749	122
Other hickory	2,223	4,695	769	5	1	1,285	102	17,953	1,257	95
Basswood	215	1,100	181	--	--	--	--	487	34	--
Beech	86	467	77	--	--	112	9	--	--	--
Hard maple	2,070	6,525	1,111	183	25	1,513	120	10,933	765	49
Soft maple	7,324	13,727	2,338	50	7	4,429	350	64,764	4,533	97
Elm	4,865	1,531	252	6	1	4,906	388	60,115	4,208	17
Black ash	151	418	69	4	0	16	1	1,121	78	2
White & green ash	4,720	10,781	1,771	135	18	3,117	246	36,708	2,570	114
Sycamore	1,266	4,697	772	114	16	308	24	5,328	373	81
Cottonwood	4,748	17,282	2,682	--	--	7,617	602	16,110	1,128	337
Hackberry	626	1,952	321	--	--	2,837	224	--	--	81
River birch	469	954	157	3	0	3,745	296	--	--	16
Sweetgum	185	1,003	165	57	8	97	8	66	5	--
Tupelo	85	467	77	--	--	77	6	28	2	--
Black cherry	1,536	2,393	393	52	7	--	--	15,985	1,119	16
Black walnut	1,750	5,515	844	1,013	143	--	--	10,366	726	37
Yellow-poplar	1,201	5,701	937	230	31	1,627	129	14	1	104
Other hardwoods	7,608	2,238	378	7	1	718	57	98,122	6,869	303
Noncommercial species	6	35	6	--	--	--	--	--	--	--
Total hardwoods	101,493	215,698	35,979	5,334	734	41,058	3,244	838,621	58,703	2,834
All species	102,189	216,035	36,039	5,334	734	45,681	3,609	842,219	58,955	2,852

[1] International 1/4 inch rule.

[2] 128 cubic feet; includes wood, bark, and air space

All table cells without observations are indicated by --. Cells with observations smaller than the precision reported in the table are shown as zero. Columns and rows may not add to their totals due to rounding.

Removals data are based on the Illinois 1996 timber products output study, the 1997 pulpwood study, and the 1996 fuelwood study. The average date of the data is 1996.

Table 54. -- All live tree biomass on timberland by species group and forest type group/local type, Illinois, 1998

(In green tons)

Species group	All types	Forest type group/local type												
		White-red-jack pine	Loblolly-shortleaf pine	Oak-pine				Oak-hickory			Oak-gum-cypress	Elm-ash-cottonwood	Maple-beech-birch	Non-stocked
		White pine	Shortleaf pine	Total	Eastern redcedar	Eastern redcedar-hardwood	Oak-pine	Total	Chestnut-scarlet oak	White oak-red oak-hickory	Oak-gum-cypress	Elm-ash-soft maple	Maple-beech	Non-stocked
Softwoods														
Jack pine	91	91	--	--	--	--	--	--	--	--	--	--	--	--
Red pine	610	565	--	2	--	--	2	14	5	8	--	--	29	--
White pine	1,632	1,419	--	90	--	--	90	102	4	97	--	--	21	--
Loblolly pine	117	--	--	--	--	--	--	68	--	68	--	50	--	--
Shortleaf pine	2,599	55	2,103	278	--	--	278	144	1	143	--	--	19	--
White spruce	39	27	--	12	--	--	12	--	--	--	--	--	--	--
Baldcypress	330	--	--	--	--	--	--	3	--	3	105	172	50	--
Eastern redcedar	965	9	4	353	104	233	16	457	51	406	7	74	62	--
Other softwoods	191	85	3	98	--	--	98	4	--	4	--	--	--	--
Jack pine	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total	6,574	2,250	2,110	834	104	233	497	791	62	729	112	296	181	--
Hardwoods														
Select white oak	52,208	10	--	89	12	27	51	45,873	1,569	44,305	466	2,115	3,653	--
Other white oak	7,630	--	--	98	4	52	42	6,537	1,886	4,651	296	508	191	--
Select red oak	20,198	--	9	69	13	56	--	16,164	597	15,568	388	687	2,881	--
Other red oak	51,710	21	28	404	29	167	208	39,654	10,584	29,070	3,644	3,475	4,484	--
Select hickory	21,457	1	5	83	--	27	56	17,769	736	17,032	143	1,448	2,007	--
Other hickory	14,492	--	--	138	15	62	61	12,200	471	11,730	115	914	1,126	--
Basswood	2,896	--	--	--	--	--	--	730	18	712	--	218	1,948	--
Beech	954	--	2	0	--	0	--	204	--	204	2	--	745	--
Hard maple	14,201	--	10	--	--	--	--	5,638	321	5,317	55	851	7,647	--
Soft maple	26,994	--	22	81	--	--	81	1,275	38	1,237	359	23,417	1,839	--
Elm	19,172	33	51	118	1	65	53	6,691	424	6,267	236	4,349	7,694	--
Black ash	205	--	--	--	--	--	--	6	--	6	--	116	82	--
White & green ash	16,565	--	39	56	--	17	39	6,262	437	5,825	241	5,746	4,219	1
Sycamore	8,680	10	2	13	--	13	--	1,423	35	1,388	272	5,436	1,524	--
Cottonwood	10,004	--	76	--	--	--	--	1,007	55	953	46	8,098	776	--
Willow	4,063	10	5	--	--	--	--	83	15	68	72	3,784	109	--
Hackberry	8,402	--	9	--	--	--	--	1,729	66	1,662	110	5,110	1,446	--
Balsam poplar	18	--	--	--	--	--	--	2	--	2	--	16	--	--
Bigtooth aspen	86	--	--	--	--	--	--	--	--	--	--	--	86	--
Quaking aspen	69	--	--	--	--	--	--	56	--	56	--	13	--	--
Paper birch	2	--	--	--	--	--	--	--	--	--	--	2	--	--
River birch	1,765	--	4	7	--	--	7	125	48	77	45	1,480	104	--
Sweetgum	3,961	--	54	2	--	--	2	954	--	954	1,913	504	535	--
Tupelo	1,192	--	51	3	--	3	--	397	15	382	44	529	169	--
Black cherry	6,990	35	45	13	--	4	9	3,157	394	2,763	135	962	2,642	--
Black walnut	8,680	--	19	26	--	17	9	3,471	280	3,191	4	1,634	3,527	--
Butternut	202	--	--	--	--	--	--	49	--	49	13	21	119	--
Yellow-poplar	3,542	4	224	69	--	54	14	804	--	804	218	255	1,969	--
Other hardwoods	19,481	14	75	149	15	25	109	8,756	298	8,459	171	7,714	2,602	--
Other hardwoods	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total	325,817	138	730	1,417	88	590	739	181,017	18,285	162,732	8,985	79,404	54,123	1
All species	339,888	2,395	2,843	2,266	192	838	1,236	185,272	19,050	166,222	9,260	81,127	56,725	1

All table cells without observations in the inventory sample are indicated by --. Cells with observations smaller than the precision reported in the table are shown as zero. Columns and rows may not add to their totals due to rounding.

Table 55. -- All live aboveground tree biomass on timberland by species group and tree biomass component, Illinois, 1998

(In green tons)

Species group	All components	Tree biomass component						
		All live 1-5 inch trees	Growing-stock trees			Non-growing-stock trees		
			Stumps	Boles	Tops and limbs	Stumps	Boles	Tops and limbs
Total softwoods								
Jack pine	91	--	6	66	8	1	9	1
Red pine	610	38	40	460	57	1	12	2
White pine	1,632	30	102	1,328	151	2	16	2
Loblolly pine	117	--	5	101	11	--	--	--
Shortleaf pine	2,599	98	141	2,095	238	2	23	3
Baldcypress	330	--	12	270	48	--	--	--
Eastern redcedar	965	194	48	417	125	14	133	36
Other softwoods	230	3	15	124	40	4	34	10
Total	6,574	365	369	4,861	678	22	226	53
Total hardwoods								
Select white oak	52,208	743	2,687	34,078	8,847	342	4,523	989
Other white oak	7,630	273	424	4,798	1,336	47	602	149
Select red oak	20,198	211	911	13,967	3,570	71	1,189	279
Other red oak	51,710	1,910	2,430	34,358	9,116	202	2,942	751
Select hickory	21,457	1,290	1,058	13,838	4,153	62	812	245
Other hickory	14,492	1,347	702	9,052	2,789	36	428	138
Basswood	2,896	111	138	1,795	509	19	252	71
Beech	954	21	33	484	123	15	224	54
Hard maple	14,201	1,895	532	7,412	2,228	101	1,613	420
Soft maple	26,994	1,006	1,043	16,625	4,419	187	2,915	798
Elm	19,172	5,319	880	7,508	2,525	233	2,034	674
Black ash	205	59	9	80	26	2	22	6
White & green ash	16,565	1,465	707	9,306	2,793	123	1,688	483
Sycamore	8,680	161	313	5,993	1,464	30	588	131
Cottonwood	10,004	212	471	6,834	1,613	45	694	135
Willow	4,063	156	196	2,150	648	59	669	185
Hackberry	8,402	1,363	431	4,328	1,283	73	709	215
Bigtooth aspen	86	--	3	68	15	--	--	--
Quaking aspen	69	--	4	52	13	--	--	--
River birch	1,765	60	85	1,093	333	10	143	39
Sweetgum	3,961	250	213	2,649	790	4	41	13
Tupelo	1,192	79	61	744	216	6	66	20
Black cherry	6,990	1,373	265	2,955	932	99	1,028	338
Black walnut	8,680	382	427	5,018	1,512	79	981	281
Butternut	202	4	10	113	37	2	27	8
Yellow-poplar	3,542	170	141	2,472	666	5	67	21
Other hardwoods	19,500	3,908	593	6,485	2,081	397	4,642	1,395
Total	325,817	23,770	14,766	194,257	54,036	2,248	28,900	7,839
Noncommercial species	7,496	3,234	--	--	--	300	2,973	990
All species	339,888	27,368	15,135	199,118	54,714	2,570	32,100	8,882

All table cells without observations in the inventory sample are indicated by --. Cells with observations smaller than the precision reported in the table are shown as zero. Columns and rows may not add to their totals due to rounding.

Table 56.-- Sampling errors [1] by Forest Survey Unit and county/county group for area of timberland, volume, average annual net growth, and average annual removals on timberland, Illinois, 1998

(Sampling error in percent)

Forest Survey Unit and county/county group	Forest area	Timberland area	Growing stock			Sawtimber		
			Volume	Average annual net growth	Average annual removals	Volume	Average annual net growth	Average annual removals
Southern Unit								
Alexander	8.30	8.30	14.10	19.49	59.61	15.47	21.54	60.63
Franklin	11.41	11.41	17.98	19.99	57.39	19.71	19.59	57.79
Gallatin	12.79	12.79	20.04	22.56	64.62	23.37	22.98	61.79
Hamilton	12.04	12.05	14.17	16.55	59.72	18.69	18.54	62.57
Hardin	11.02	11.02	11.53	12.21	3.15	13.15	11.47	6.02
Jackson	5.67	6.25	8.83	11.27	38.77	9.85	11.62	41.00
Johnson	8.14	9.97	16.48	17.33	61.00	17.62	17.70	75.04
Massac	18.30	20.53	25.13	25.71	71.10	27.85	25.83	70.74
Perry	11.55	12.35	18.29	18.16	73.70	22.12	18.87	71.72
Pope	4.54	5.46	7.88	15.55	51.23	9.50	16.00	50.32
Pulaski	13.59	13.59	20.39	19.62	70.30	21.27	25.40	71.31
Randolph	10.20	10.20	16.98	15.72	40.10	17.93	18.01	42.64
Saline	9.35	11.04	13.28	18.31	84.30	16.49	14.16	84.44
Union	4.81	12.47	19.33	14.39	54.51	21.09	14.93	60.32
White	16.50	16.50	21.16	28.80	71.28	23.81	28.80	72.47
Williamson	9.43	10.46	13.69	16.95	--	16.79	16.40	--
Total	2.24	2.52	3.60	4.42	17.36	4.15	4.61	18.04
Claypan Unit								
Bond	15.35	15.35	17.81	20.27	--	20.81	25.54	--
Calhoun	10.01	10.41	14.51	15.67	38.40	15.66	14.88	37.14
Clark	10.42	10.42	16.39	17.11	46.23	19.63	19.63	47.81
Clay	15.15	15.15	17.12	22.00	76.26	19.16	18.85	76.10
Clinton, Washington	8.11	9.01	11.17	11.10	--	11.94	11.08	--
Crawford	12.02	12.02	14.05	16.02	56.80	16.61	15.76	69.68
Cumberland	25.20	25.20	27.61	33.50	--	31.14	37.04	--
Edwards, Wabash	20.17	20.17	21.64	26.20	--	21.00	29.37	--
Effingham	12.58	12.58	20.46	18.99	72.89	22.31	19.82	72.33
Fayette	8.46	9.76	14.05	14.36	88.30	15.65	13.40	86.27
Greene	15.40	15.40	21.66	24.02	--	25.56	23.31	--
Jasper	11.74	11.74	28.44	27.48	--	34.64	32.37	--
Jefferson	8.28	8.28	13.88	15.64	--	16.99	20.12	--
Jersey	15.53	19.70	22.86	25.13	70.67	23.56	26.28	70.75
Lawrence	15.24	17.80	25.75	19.01	--	28.48	24.06	--
Macoupin	9.95	9.95	13.25	15.40	57.69	15.56	17.10	58.38
Madison	15.11	15.11	17.05	19.38	48.40	17.81	21.70	50.19
Marion	9.38	9.82	15.89	16.27	79.63	18.45	17.98	--
Monroe	13.85	13.85	15.37	22.72	61.92	16.42	23.72	67.24
Montgomery	9.43	9.43	15.75	17.62	63.21	17.98	19.54	67.58
Richland	17.84	17.84	26.51	32.55	76.37	29.58	33.30	74.40
St.Clair	16.92	16.92	23.64	21.66	--	23.85	22.13	--
Shelby	17.61	17.61	23.70	23.44	--	23.91	23.16	--
Wayne	12.16	12.16	15.99	17.59	49.61	17.42	19.65	54.62
Total	2.50	2.59	3.70	4.05	17.72	4.13	4.40	18.27

(Table 56 continued on next page)

(Table 56 continued)

Forest Survey Unit and county/county group	Forest area	Timberland area	Growing stock Volume	Growing stock Average annual net growth	Growing stock Average annual removals	Sawtimber Volume	Sawtimber Average annual net growth	Sawtimber Average annual removals
Prairie Unit								
Adams	12.83	13.03	20.36	15.71	71.48	23.11	17.87	68.79
BoDeKaMc	20.39	20.30	23.63	28.91	--	26.37	30.93	--
Brown	13.55	16.10	20.56	20.16	64.99	21.75	23.71	63.46
Bureau	15.61	15.61	40.64	26.73	--	47.14	34.55	--
Carroll, Stephenson	11.94	13.24	24.89	26.22	73.14	30.27	21.63	74.02
Cass	20.35	23.13	29.52	30.77	84.88	31.53	32.73	84.04
CaCiDeFoLiMaMcMoPi	12.46	15.57	21.38	30.35	85.28	22.64	32.39	86.18
CoDoEd	17.87	19.62	29.89	25.56	47.66	30.46	27.81	50.27
CoDuLaWi	11.85	28.50	35.78	53.44	--	36.38	53.85	--
Fulton	10.47	10.47	15.96	17.64	46.30	17.74	18.80	48.21
GrKeLa	18.35	19.97	24.79	30.32	53.25	26.93	30.80	53.37
Hancock	13.92	13.92	17.32	18.03	73.55	19.28	21.76	74.32
Henderson	22.11	25.98	32.49	25.33	--	40.29	32.16	--
Henry, Stark	20.44	22.85	39.57	27.60	--	48.78	30.46	--
Iroquois, Kankakee	18.59	18.59	26.13	25.44	71.79	25.72	29.05	72.41
Jo Daviess	17.31	18.50	21.32	23.65	72.29	23.25	26.93	71.98
Knox	22.96	23.89	35.04	30.73	66.53	38.52	33.75	67.30
Lee, Whiteside	18.56	18.56	26.73	22.83	--	30.17	29.36	--
Logan, Tazewell	15.57	15.57	24.87	26.10	--	27.28	29.50	--
Marshall, Putman	12.80	12.80	24.87	19.56	--	28.06	25.66	--
Mason, Menard	16.36	20.05	26.08	25.63	--	29.78	18.50	--
McDonough	16.95	19.42	27.93	23.86	--	34.03	24.30	--
Mercer	16.40	16.40	24.72	28.68	--	27.79	28.20	--
Morgan, Scott	15.04	15.04	26.27	28.90	55.21	30.74	31.99	56.52
Ogle	19.55	19.55	22.37	25.72	--	24.31	29.86	--
Peoria	15.90	20.90	23.04	23.01	--	24.91	26.08	--
Pike	9.43	9.43	15.30	14.78	38.17	17.39	15.97	39.45
Rock Island	15.91	17.37	25.71	23.23	--	26.83	30.32	--
Sangamon	17.80	17.80	21.61	27.68	--	24.36	27.41	--
Schuyler	11.43	11.43	15.52	15.14	49.72	16.96	17.55	--
Vermilion	15.53	15.53	27.22	25.06	--	29.69	25.96	--
Warren	18.95	18.95	29.27	20.62	--	32.40	24.45	--
Winnebago	16.02	18.77	23.29	21.62	--	26.08	25.15	--
Woodford	7.43	13.18	28.49	23.12	--	33.87	26.57	--
Total	2.66	2.95	4.23	4.24	17.22	4.74	4.61	18.55
All counties	1.49	1.61	2.28	2.45	10.09	2.57	2.63	10.57

[1] Sampling error is not calculated when the estimated removals are equal to 0.
BoDeKaMc = Boone, DeKalb, Kane, and McHenry Counties.
CaCiDeFoLiMaMcPi = Champaign, Christian, Dewitt, Ford, Livingston, Macon, McLean, Moultrie, and Piatt Counties.
CoDoEg = Coles, Douglas, and Edgar Counties.
CoDuLaWi = Cook, DuPage, Lake, and Will Counties.
GrKeLa = Grundy, Kendall, and LaSalle Counties.

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2000. **Illinois' forests in 1998**. Resour. Bull. NC-198. St. Paul, MN: U.S. Department of Agriculture, Forest Service, North Central Research Station. 133 p.

The fourth inventory of Illinois' forests reports 35.6 million acres of land, of which 4.3 million acres are forested. This bulletin contains detailed tables of area, volume, growth, removals, mortality, ownership, and other resource attributes.

KEY WORDS: Forest area, timber volume, net growth, removals, mortality.